

World Rice STATISTICS 1993 - 94



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Foreword

World rice statistics (WRS), which is published periodically by IRRI, presents comprehensive time series information related to rice. Data on rice production, trade, consumption, inputs, prices, and other related information are compiled from international and national statistical sources, personal communications, and from responses to questionnaires sent by the Social Sciences Division. This edition of WRS—which brings us, in many cases, through 1993 and, in some cases, into 1994—includes revisions, updates, and additional information.

The computerized WRS Database System (RICESTAT) is continually revised and updated to facilitate access to global information on rice.

World rice statistics 1993-94 was prepared by Adelita C. Palaopac under the guidance of Dr. Mahabub Hossain, economist and head of the Social Sciences Division. In this edition, efforts were made to expand geographical coverage wherever possible, the section on modern varieties and input use was enhanced, and the most recent data on the costs and returns of rice farming were included.

We thank Josephine H. Narciso for the graphical presentations, Piedad Moya for preparation of the questionnaires on modern variety adoption, and Mirla D. Domingo and Frederick Lagasca for secretarial assistance.

We also thank Francesco Pariboni and Chan Ling Yap of the Food and Agriculture Organization, Reza Parivari of the World Bank, and Patricio Mendez del Villar of the Institut de Recherches Agronomiques Tropicales et des Cultures Vivrieres for sharing with us their statistical databases.

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The cooperation of national agencies and universities, the IRRI international outreach projects, and private corporations in providing us the needed statistics is greatly appreciated.

Suggestions for improving this publication are most welcome.

GEORGE ROTHSCHILD
Director General

Explanatory notes

There are two major sources of data series included in this edition: primary data derived from personal communications and data requests and/or questionnaires sent to IRRI correspondents in various national agricultural research systems, and secondary sources composed of statistical publications and databases of international and national agencies.

Data series on rice production, area and yield, rice trade, stocks, consumption, food aid and land use, and population and labor force (by country and geographical region) are primarily from the FAO AGROSTAT Database except for the provincial level rice production, area and yield data of the People's Republic of China and state level rice data of India, which are taken from country sources.

Irrigated rice area, irrigation development expenditures, area planted to modern varieties, distribution of rice area by environment, and domestic prices are usually obtained from country sources. For this edition, data requests were sent to several national statistical agencies and IRRI liaison scientists assigned in different countries to obtain the most recent information.

World prices of rice, maize, and wheat are obtained from the World Bank while most of the data on farm wages come from the International Labor Organization (ILO).

In all cases, the latest revisions, updates, and estimates shown in these primary and secondary sources are adopted.

Questionnaires were sent mostly to directors of national rice research institutes and IRRI liaison scientists to obtain data on rice varieties planted by varietal type, group and niche, parentage, line number, and year of release. Separate questionnaires were also sent to heads of national statistical agencies to obtain data on rice costs and returns in rice production for 1991-93.

In the section on rice costs and returns, we also include those rice costs and returns tables that were already shown in *World rice statistics, 1990* to facilitate comparison between time periods.

In this edition, 10 charts facilitate the analysis of trends of important variables related to rice. Countries with rice area amounting to 20% or more of the arable land are included in the charts. Exceptions are figures showing farm price of rice, percentage of rice area irrigated, and percentage of rice area under modern varieties; only a few countries are shown because of lack of data.

Updated price indices, official exchange rates, rice crop calendar, milling rates, and important conversion factors compiled from the IMF and the USDA are included in the appendices for easy reference.

Institutions and organizations supplying information on rice

Bangladesh	Bangladesh Rice Research Institute Bangladesh Institute of Developmental Studies	Nepal	Department of Agricultural Development Central Bureau of Statistics
Cambodia	Cambodia-IRRI-Australia Project	Pakistan	Pakistan Institute of Development Economics Pakistan Agricultural Research Council
China	China National Rice Research Institute	Philippines	Philippine Rice Research Institute Bureau of Agricultural Statistics National Statistics Office
India	Central Rice Research Institute	Sri Lanka	Department of Agriculture
Indonesia	Central Research Institute for Food Crops	Thailand	Ministry of Agriculture and Cooperatives Kasetsart University
Japan	IRRI-Japan Liaison Office Tottori University	United Kingdom	Wood Mackenzie Consultants, Ltd.
Korea, Republic of	Department of Agricultural Economics College of Agriculture		
Madagascar	Madagascar-IRRI Rice Research Project		
Myanmar	Department of Rice Research Myanma Agricultural Service		

Abbreviations and acronyms

ADB	Asian Development Bank	Rep	Republic
ARP	acreage reduction program	SEARCA	Southeast Asian Regional Center for Graduate Study and Research in Agriculture
cif	cost, insurance, and freight		
CIRAD	Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement	UAE	United Arab Emirates
		US\$	United States dollar
DPR	Democratic People's Republic	USA	United States of America
DS	dry season	USAID	United States Agency for International Development
EEC	European Economic Community	USDA	United States Department of Agriculture
F	Farmers	USSR	Union of Soviet Socialist Republics
FAO	Food and Agriculture Organization	W	west
fob	free on board	WS	wet season
G	government	WFP	World Food Programme
GDP	gross domestic product		
ILO	International Labor Organization		
IMF	International Monetary Fund		
IRAT	Institut de Recherches Agronomiques Tropicales et des Cultures Vivrieres		
IRRI	International Rice Research Institute		
M	mills and/or merchants		
M\$	Malaysian dollar		
N	nitrogen		
NARS	national agricultural research system		
N&C	north and central		
NT\$	New Taiwan dollar		
OPEC	Organization of Petroleum-Exporting Countries		
OSIRIZ	L'Observatoire de Statistiques Internationales sur le Riz		
PDR	People's Democratic Republic		
PR	People's Republic		

Units of measurement

cm	centimeter
ha	hectare
kg	kilogram
t	metric ton
000	thousand
yr	year
md	manday

Key symbols

...	data not available
—	magnitude zero
*	less than 500 t for quantities of trade and less than half a million US\$ for value of trade, unless otherwise specified
+	less than 1000 ha

Recent trends in the rice economy

Rice production, area, and yield

Data on rough rice production, area, and yield are shown individually for countries generally producing 100,000 t or more. Countries producing less than 100,000 t are categorized under "Others."

Separate tables showing rough rice production, area, and yield by province for the People's Republic of China and, by state, for India are also shown.

The time reference for rice area and production is based on the calendar year period—i.e., the year the entire harvest or bulk of the harvest took place.

Data on area generally relate to harvested area. However, some countries (e.g., China, Japan, Republic of Korea, Nepal, etc.) report sown area only. In these countries, sown area does not differ significantly in normal years from the area actually harvested or area surveys are conducted around the harvest period.

The yield figures are derived by dividing production by the respective harvested area.

World rice production ranged from 517.4 million to 527.4 million t during the 1989-93 period (Table 1). The major rice-producing countries are China, India, Indonesia, Bangladesh, Thailand, Vietnam, and Myanmar. These countries account for nearly 78% of world rice production. Asia as a whole contributes about 92% of the world's rice harvest.

In 1993, China contributed about 36% of the total world rice production while India registered a 21% share. In other major rice-growing countries like Myanmar, output increased by 26% from 1989 levels because of expanded area and the introduction of a second crop of rice. Vietnam continues to show an upward trend in production since 1988, reaching more than 22 million t in 1993.

Other Asian countries showed significant declines in rice production in 1993. The Democratic People's Republic of Korea recorded a 46% decline in rice production compared with the 1989 level, its lowest for the last 2 decades. The cool and wet summer hampered development of the crop, adversely af-

fecting yields. Rice production in Japan dropped by 3.1 million t or 24% below the 1989 level. The decline is attributed to typhoons, pests, and unseasonably cold weather. Meanwhile, Indonesia suffered a marginal decline after its record output of 48.2 million t in 1992.

Outside Asia, South America, North and Central America, Europe, and the former USSR suffered declines in rice production in 1993 ranging from 3 to 22% of the 1989 level. However, Africa and Oceania increased output by 15 and 13%, respectively, of the 1989 level.

Throughout the 1990-93 period, world rice area has remained constant at around 148 million ha (Table 2). Almost 90% of this area is in Asia. India is the largest grower of rice, amounting to 41.2 million ha in 1993. China ranks second with 31.4 million ha, 5% lower than what was planted in 1989. No significant increases in rice area were noted except in Africa and Oceania (3 and 5%, respectively). Additional land that could be planted to rice has become scarce, so most countries have shifted from expanding crop area to increasing yield as a way of maintaining growth in domestic rice production.

World average rice yields almost doubled from about 2 t/ha in the 1960s to almost 4 t/ha in the early 1990s (Table 3). The Republic of Korea, Japan, China, Democratic People's Republic of Korea, Turkey, Uruguay, Peru, Dominican Republic, Egypt, Portugal, Spain, United States, and Australia recorded yields ranging from 5 to 8 t/ha. The highest yield of 8.4 t/ha was recorded in Australia in 1992. However, most countries reported yields of only about 2-4 t/ha.

Among the provinces of the People's Republic of China, Hunan was the largest grower and producer of rice, followed by Sichuan (Tables 4 and 5). However, Ningxi Province produced the highest yield of more than 9 t/ha in 1991 (Table 6).

In India, West Bengal was the top rice producer except for some years when Andhra Pradesh took the lead (Table 7). In 1991, about 18 million t of rough rice were produced in West Bengal and more than 14 million t in Andhra Pradesh.

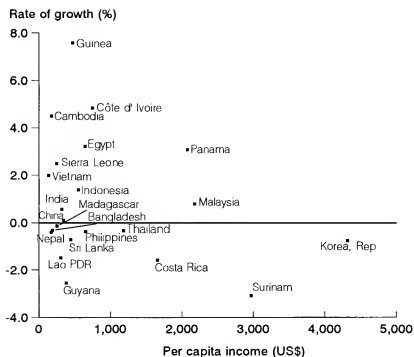


Fig. 1. Per capita income and rate of growth of rice area, 1985-92. China includes Taiwan Province.

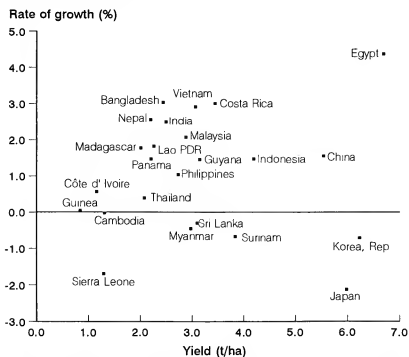


Fig. 2. Rice yield and rate of growth of rough rice production, 1985-93. China includes Taiwan Province.

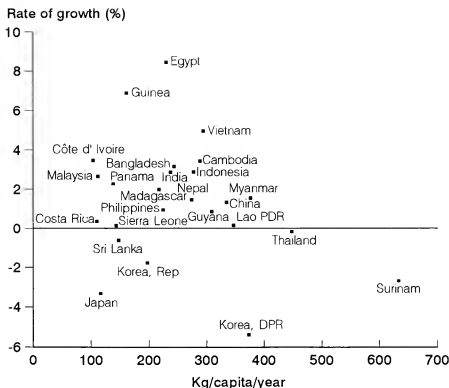


Fig. 3. Per capita foodgrain production and rate of growth of rough rice production, 1985-93. China includes Taiwan Province.

As to rice area, West Bengal and Uttar Pradesh were the leading states, each cultivating almost 6 million ha in 1990 (Table 8). However, in terms of rice yield, Punjab topped the list producing more than 5 t/ha in 1989 (Table 9).

The relative positions of major rice-growing countries in terms of growth in area, and most recent yield and production are shown in Figures 1-3.

Imports and exports

Data on volume and value of rice imports and exports through 1992, by country and geographical region, are shown in Tables 10-13. For selected countries, quantity of rice imports by country of origin (Table 14) and quantity of rice exports by country of destination (Table 15) are also included.

Data for trade in paddy or threshed unmilled rice are shown in terms of milled rice, converted at the rate of 100 paddy units = 65 milled rice units. Husked rice is included at the actual weight. In general, export values are on an fob basis and import values are on a cif basis.

Differences between figures for total rice exports and imports may be due to several factors, e.g., time lag between the dispatch of rice from the exporting country and its arrival in the importing country.

World milled rice imports in 1992 was 15.2 million t, 0.7 million t more than in 1989 (Table 10). The increase was mainly due to increased import demand in South America and the former USSR. In Asia, rice purchases declined by almost 12% of the 1989 level due to substantial decreases in rice imports in China and India in 1992. China, which recorded large rice purchases especially in 1989, reduced imports by almost 27% of the 1991 level. Bangladesh and India also purchased minimal quantities in the last 2 years because of successive bumper crops. In 1992, Brazil almost tripled the amount of rice it purchased in 1989 and Peru doubled the amount.

The former USSR contracted large quantities of rice imports to alleviate problems of rising prices and food shortages in several urban areas. As a result, its rice imports increased by 33% compared with rice purchased in 1989. Canada and Cuba were the main buyers in North and Central America. The African countries of Côte d'Ivoire, Senegal, South Africa, and Nigeria purchased higher amounts.

The volume of world rice exports in 1992 increased by almost 4% from the 1989 level (Table 12). Thailand, Vietnam, and China comprised more than 50% of the world's export trade. Thailand remains the world's largest exporter with rice shipments of 5.2 million t in 1992. Vietnam, which started to be a

major rice exporter in 1989, shipped a record 1.9 million t (third place), 37% more than the quantity exported in 1989. China's exports recovered in 1992 to the near normal levels of the mid-1980s, sales being boosted by the decline in the value of the yuan against the U.S. dollar. Pakistan exported 1.5 million t in 1992 (fourth place), almost 0.7 million t more than it sold in 1989. India's exports were estimated at 0.6 million t, 33% higher than in 1989. In the United States, exports dropped to 70% of the 1989 level. Total exports of 2.2 million t, only 0.3 million t higher than Vietnam's, enabled the United States to narrowly maintain second place behind Thailand in the world export trade.

Among the smaller exporters, Argentina and Guyana recorded the biggest changes in 1992, registering increases of 87 and 161%, respectively, from the 1989 level. In contrast, Colombia normally an exporter sold only 1,000 t in 1992 after a 5% reduction in rice production in 1991. Both Uruguay and Australia exported larger quantities in 1992.

Sources of data for imports of milled rice by country of origin and exports of milled rice by country of destination are primarily the FAO Intergovernmental Group on Rice Session Reports, the FAO Statistics Division, and, in a few cases, the

official country statistical publications. Data available are limited and values for both rice imports by origin and rice exports by destination are not readily available.

The changes in rice trade over the 1961-92 period for different regions of the world are shown below:

Region	Share of exports			Share of imports		
	1961	1985	1992	1961	1985	1992
Asia	71.4	64.4	68.1	72.9	43.2	38.8
East Asia	8.7	10.9	6.9	10.3	5.0	4.0
Southeast Asia	55.5	43.1	46.8	32.1	12.8	9.5
South Asia	6.8	9.5	13.1	25.8	7.4	2.8
Middle East	0.4	0.9	1.3	4.7	18.0	22.5
Africa	4.6	0.3	1.3	8.0	24.7	24.7
Latin America	4.8	4.9	5.0	5.5	8.5	13.2
North America	12.4	16.8	13.7	0.7	1.4	2.4
Europe	5.9	10.5	8.5	11.7	17.3	13.2
Former USSR	0.01	0.2	0.1	0.3	3.0	5.6
Oceania	0.9	3.0	3.3	0.7	1.6	1.9
World	100.0	100.0	100.0	100.0	100.0	100.0

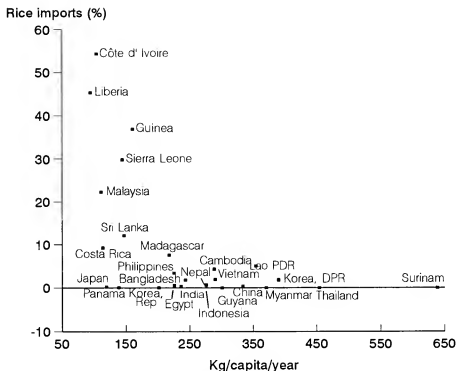


Fig. 4. Per capita foodgrain production and rice imports as percentage of consumption, 1985-92. China includes Taiwan Province.

Asia's share of global rice imports has fallen drastically from 73% in 1961 to 39% in 1992, as many Asian countries have become self-sufficient in rice production as a result of the Green Revolution. Imports of Africa and Latin America have increased. The positions of major rice-producing countries with respect to rice imports and foodgrain production during the 1985-92 period are shown in Figure 4.

Food aid

When grave rice shortages emerge following reduced or poor harvests due to adverse weather and/or civil strife, a substantial portion of rice import requirements needs to be covered by rice food aid.

Rice food aid, by donor and by recipient, are shown in Tables 16 and 17, respectively. These include the amount of rice transferred from donor countries to recipient countries on a total grant basis or on highly concessional terms. The data on food aid shipments are given by donor countries and may not correspond to actual receipt by beneficiaries during a given period of time because of delays in transportation and flaws of the data recording system.

Rice food aid shipments are reported on a crop year (July/June) basis; therefore, 1970 corresponds to the period from July 1970 to June 1971.

Total rice food aid shipments in 1992 were estimated at 1.1 million t (Table 16), almost unchanged from the 1991 level. This was significantly larger than the quantity shipped in 1989—only 0.7 million t, the lowest in the decade. Most shipments came from the EEC and the United States, with EEC shipments more than twice those of the 1989 level. Japan, on the other hand, lowered its rice food aid shipments to about 97% of what it sent in 1989.

In recent years, rice food aid shipments were large in sub-Saharan Africa, reflecting persistent food deficits in this region.

Somalia showed the highest demand for rice food aid in 1992 (Table 17). The food emergency, worsened by continuing civil strife, led to increased food aid requirements of more than 116,000 t. Liberia also increased its rice food aid requirements to 134,000 t in 1992 because of low rice production and continued civil war.

In Asia, rice food aid in 1992 was about 14% lower than that in 1989 because of smaller shipments to Bangladesh, Vietnam, India, and Thailand. However, Cambodia received almost 72,000 t of rice food aid in 1992, about 7 times of what was received in 1989. This reflected the substantial food assistance needed by the internally displaced persons, demobilized soldiers, and returnees from refugee camps in Thailand since the civil war.

Consumption and calorie supply

Food supply information is usually presented both in actual quantity and caloric value terms. Table 18 shows rice calorie supply as a percentage of total calorie supply and Table 19 presents rice supply/utilization balances (in 000 t milled rice).

Rice utilization balances are in the form of food balance sheets composed of three main segments: domestic supply, domestic utilization, and per caput intake.

The total quantity of rice produced in each country added to the total quantity imported and adjusted to any change in stocks that may have occurred since the beginning of the reference period gives the supply available during that period. On the utilization side, a distinction is made among the quantities exported, fed to livestock, used for seed, put to manufacture for food use and nonfood uses, losses during storage and transportation, and food supplies available for human consumption. The per caput supply of rice available for human consumption is then obtained by dividing the respective quantity by the related data on the population actually partaking it. Per caput supply figures represent only the average supply available to the population as a whole and do not necessarily indicate what is actually consumed by individuals.

Rice is the staple food for about 50% of the world's population. Globally, 23% of the total caloric supply comes from rice (Table 18), and an average of 58 kg of milled rice per capita was consumed in 1989-91 (Table 19). Asian countries such as Cambodia, Myanmar, Lao PDR, Vietnam, and Bangladesh were the major consumers, averaging 139-193 kg of milled rice per capita. European countries, on the other hand, consumed an average of about 4 kg of milled rice per capita per year.

The positions of major rice-growing countries with regard to total foodgrain calorie intake and the calorie supply from rice are shown in Figure 5.

Holding of stocks

Rice stocks are very important in achieving world food security by ensuring a continuous supply of cereals to consumers and offsetting year-to-year production fluctuations.

Carryover stocks shown in Tables 20-22 consist of supplies from harvests of the previous seasons (or from imports) that remain in a country at the end of the season or at the beginning of the new season when domestic and export requirements can be met with new crop supply. While the data, in principle, should refer to stocks held by farmers, processors, merchants, and government, coverage is often incomplete and, for many countries, relate to government-held stocks only.

Global rice stocks reached a record level of 64 million t in 1991, an increase of about 11% from the 1990 level and 36% from 1989. Increases in stocks were mainly experi-

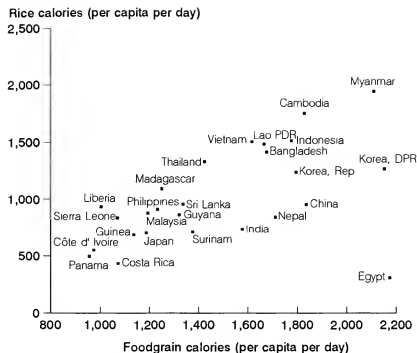


Fig. 5. Calorie supply for foodgrain and calorie supply for rice, 1985-92. China includes Taiwan Province.

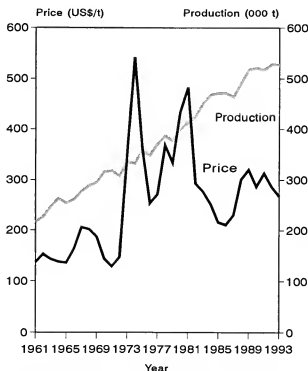


Fig. 6. Trends in world rice production and world price of rice, 1961-93.

enced in China, the Philippines, and Japan due to bumper harvests in 1990. However, in 1992, rice stocks were down to 62 million t, 3% lower than in 1991. Estimates of global carryover stocks in 1993 further decreased to 58 million t, reflecting a heavy draw down on stocks. Stocks fell mainly because of a fall in output in Japan and China the previous year. In the United States and Thailand, stocks were marginally higher.

World prices

Only 4% of total rice production is traded internationally. Because of the small market, rice prices are easily affected by small changes in supply and demand in the world market and rice price movements are often more volatile than those of other agricultural commodities. Rice prices fluctuated more than did wheat and maize prices (Table 24). Within the last 5 years, export price of Thai rice 5% broken decreased from \$320/t in 1989 to \$268/t in 1993, a difference of \$52 (Table 24), while wheat and maize showed a decrease of only \$41 and \$10, respectively, for the same period.

Rice is traded on the world market through government-to-government contract and/or private trade. Prices vary accordingly to type, quality, and grade of rice. Pakistan's Basmati rice and the U.S. long- and medium-grained rices command higher prices, but Thai rices are the most common in the world market (Tables 25 and 26).

In 1988, world rice prices soared because of high import demand and inadequate supply in the world market due to reduced output in 1987. This was reflected in the FAO rice export price index, which showed a total index of 112 in 1988, 30 points (37%) higher than the previous year (Table 27). In 1989, world rice prices continued to increase because of a large volume of import demand to rebuild stocks.

Since 1989, world prices have fallen again because of Vietnam's emergence as a major rice exporter. Since the absolute amount of rice traded has remained stagnant, Vietnam's efforts to get a share of the market (particularly for low quality rice) has led to a decline in world prices, in spite of the sluggish growth in global rice production during the 1989-94 period. The trend in production and prices of rice in the international market during the 1961-93 period is shown in Figure 6.

Domestic prices

The domestic rice market situation in selected Asian and African countries are presented in Tables 28-31. Only those countries with available time series price data are included.

Four types of domestic rice prices are shown—the government support/procurement price, farm harvest or farm gate price, wholesale price, and retail price.

Government support/procurement prices and farm prices are quoted at the national level, while wholesale and retail prices

are at the main market level and pertain to a specific type of rice unless otherwise specified.

Most data were taken from country sources and/or various national statistical organizations.

Domestic rice prices are affected by the rice supply and demand situation in the individual countries and the price-related policy measures formulated by governments, depending on the said supply and demand situations. For example, in Malaysia, support prices were raised starting in 1990 to encourage expansion in rice area and thus increase output (Table 28). In 1991, the Philippines increased its support price by 56% (compared with 1989) to provide incentives to rice farmers to produce more. In contrast, the Republic of Korea has an excessive buildup of stocks and has raised support prices for lower yielding Japonica rice to encourage a shift from higher yielding to lower yielding varieties to cut back production.

However, in Japan, support prices for paddy were lowered since 1991 as one of the measures to reduce output and to meet lower consumption requirements. In Myanmar, support prices were abolished in 1989 and some state companies were designated to procure rough rice at relatively higher prices.

In general, farm harvest, wholesale, and retail rice prices for most countries increased substantially in recent years (Tables 29-31). Myanmar, in particular, has decontrolled rice prices, thus increasing prices more than tenfold in 1993. The farm harvest prices of rice in important rice-growing countries in Asia are shown in Figure 7.

Land use

Land use data are shown in 10-year intervals as physical area does not vary much in a short period of time. The FAO categorizes land use as follows:

- Total land area refers to total area, excluding area under inland water bodies which generally includes rivers and lakes.
- Arable land area relates to land under temporary crops (double-cropped areas are counted only once), temporary meadows for sowing or pasture, land under market and kitchen gardens, and land temporarily fallow or lying idle.
- Land under permanent crops relates to land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, but excludes land under trees grown for wood or timber.
- Permanent meadows and pasture refer to land used permanently (5 years or more) for herbaceous forage crops, either cultivated or growing wild (wild prairie or grazing land).
- Forest and woodland refer to land under natural or planted stands of trees, whether productive or not, and

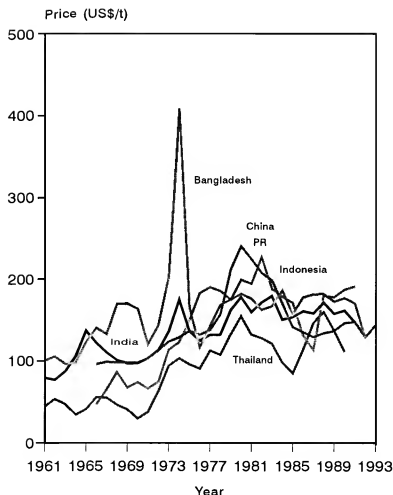


Fig. 7. Trends in farm harvest price of rough rice, 1961-93.

includes land from which forests have been cleared but that will be reforested in the foreseeable future.

- Other land includes built-on areas, wasteland, parks, ornamental gardens, roads, lanes, barren land, and any other land not classified under the abovementioned categories.

Globally, arable land area increased only by about 2% since 1980 (Table 32). This indicates that there is very little additional land suitable for cultivation. Land planted to permanent crops and permanent pastures also showed minimal increases while other lands increased by almost 6% over the 12-year period. In contrast, forests and woodlands decreased by almost 9% since 1980, reflecting ongoing deforestation activities in Asia, Africa, South America, and the former USSR.

Irrigation development

Irrigation development is vital in maintaining growth trends in rice yields. The strong positive association between irrigation and rice yield is shown in Figure 8.

Government expenditures for irrigation in developing countries are highly variable (Table 33). In 1974, following the sharp rise in rice prices in 1973, Indonesia, the Philippines, Thailand, and the Republic of Korea substantially increased irrigation development expenditures, a 30-300% increase from the 1973 level. However, in Bangladesh and Sri Lanka, expenditures for irrigation development decreased by 60 and 16%, respectively, during the same period.

In recent years, irrigation development expenditures increased in the Philippines, Sri Lanka, and the Republic of Korea, except in 1993 when such expenditures decreased by 7

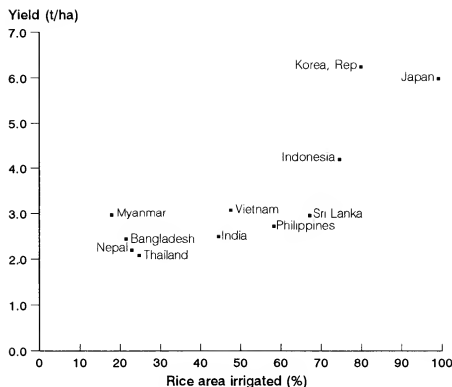


Fig. 8. Percent rice area irrigated and rice yield, 1985-93.

and 12%, respectively, in Sri Lanka and the Republic of Korea. Myanmar has increased irrigation development expenditures by 55% during the 1991-93 period.

Irrigated rice areas for selected Asian countries are shown in Table 34. Irrigated area generally increased except for Japan where it decreased as a result of the country's land diversion program.

Almost all rice areas in Pakistan and Japan are irrigated. In Indonesia, the Republic of Korea, the Philippines, and Vietnam, more than 50% have irrigation facilities. In Myanmar, Thailand, and Bangladesh, less than 30% of total rice area is irrigated.

Irrigated rice areas in major rice-growing states of India are shown in Table 35. Andhra Pradesh, Haryana, Jammu and Kashmir, Punjab, and Tamil Nadu are almost fully irrigated while the other states are 20 to 60% irrigated.

Rice ecosystems

The distribution of rice area, by rice ecosystem, is presented in Table 36. The ecosystems within which rice is grown are characterized by elevation, rainfall pattern, depth of flooding and drainage, and by the adaptation of rice to these agroecological factors.

The four rice ecosystems shown are

- Irrigated—rice is transplanted or direct seeded in puddled soil on leveled, banded fields with water control, in both dry and wet seasons in the lowlands, in the summer in higher elevations, and during the dry season in flood-prone areas.
- Rainfed lowland—rice is transplanted or direct seeded in puddled soil on level to slightly sloping, banded or diked fields with variable depth (up to 50 cm) and duration of flooding, depending on rainfall.
- Flood-prone—rice is direct seeded or transplanted in the rainy season on fields characterized by medium to very deep flooding (50 to more than 300 cm) from rivers and from tides in river mouth deltas.
- Upland—rice is direct seeded in nonflooded, well-drained soil on level to steeply sloping fields in plateau and hilly areas.

Worldwide, 53% of total rice area is irrigated, 27% is rainfed lowland, 8% is flood-prone, and 12% is upland (Table 36). Most irrigated rice areas are found in Asia (55%) while the least irrigated rice areas are in Africa (17%). Rainfed lowland rice is highest in Asia (29%) and lowest in Latin America. Most of the rice areas in Latin America are upland, comprising

59% of total rice area. Flood-prone rice is common in Africa (20% of total rice area).

Size of farmholdings

Farmholdings in most countries of Asia are still under 1 ha (Table 37). Only Pakistan and Thailand have most farms under the 2- to 5-ha category.

The total number and area of all holdings and those of rice holdings are shown in Table 38. India has the most farmholdings, numbering 98 million in 1985, with a total area of 164 million ha. Bangladesh has about 11 million farms with an average holding of 0.9 ha.

Population, labor force, and wages

Demographic estimates shown in Table 39 include total, rural and urban population, and total and agricultural labor force. The definitions of the population segments are those adopted by FAO:

- Total population refers to the present-in-area (de facto) population, which includes all persons physically present within the present geographical boundaries of countries at the midpoint of the reference period.
- Urban/rural population. Urban population is defined in many ways. However, the criteria used can roughly be divided into three major groups: localities of a certain size, administrative centers of minor civil divisions, and centers of minor civil division on a chosen criterion, which may include type of local government, number of inhabitants, and proportion of population engaged in agriculture. Usually, the urban population is defined and the residual is taken as rural.
- The agricultural population is all persons depending on agriculture, hunting, fishing, or forestry for their livelihood. This comprises the economically active population and their nonworking dependents.
- The total labor force or economically active population refers to the number of all employed and unemployed persons (including those seeking work for the first time). It covers employers; self-employed workers; employees; unpaid workers assisting in a family, farm, or business operation; members of producers' cooperatives; and members of the armed forces. The total labor force includes the population 10 years of age and older.
- The agricultural labor force or economically active population in agriculture is that part of the total labor force engaged in or seeking work in agriculture, hunting, fishing, or forestry.

According to UN estimates, the total population of the world was approximately 5.6 billion people in 1993, with an

annual growth rate of 1.8% since 1980 (Table 39). Fifty-six percent of the total population was rural and 44% was urban; 44% was dependent on agriculture, fishing, and forestry for livelihood and more than 45% of the economically active population comprised the agricultural labor force.

About 60% of the world's population came from Asia, of which China was the most populous, reaching 1.2 billion people in 1993. India ranked second with total population of almost 1 billion people (this is 195 million people more than the whole population of Africa).

Among the major geographical regions of the world, Africa has the highest average annual rate of population growth at 3%/year since 1980. Asia's population, on the other hand, grew at a rate of only 1.9%/year during the same period.

World total labor force grew at the rate of almost 2%/year since 1980 while both agricultural population and agricultural labor force grew at about 1%/year.

Farm wage rates for selected Asian countries are shown in Table 40. All countries show an upward trend in nominal farm wage rates. Farm wages in Myanmar has substantially increased since 1989 when farm wage rate was almost 3 times that of the 1988 level. In other countries, increases in farm wages are more or less gradual.

Modern rice varieties

Growth in rice area has slowed down particularly in Asia where 90-95% of all rice is consumed and produced. Due to increased population growth, rice demand increased and efforts were made to increase rice productivity through adoption of high yielding modern varieties (MV). Scientists at IRRI made a technological breakthrough when IR8 was developed and released in 1966. Since then, a large number of IR-parented varieties have been released by IRRI and various national rice programs.

MVs are rice cultivars that are short, stiff-strawed, fertilizer-responsive, photoperiod-insensitive, and have short to medium growth duration (100-130 days). Farmers get two to three times higher yields from these varieties than from traditional cultivars. The increase in rice yield has come mainly from gradual reallocation of land from traditional to the high-yielding modern varieties.

In China, Japan, and the Republic of Korea, almost all rice areas are planted to MVs. However, for China, the area planted to hybrid rice (Table 41) is more than 54% of its total rice area. In the Republic of Korea, most areas were planted to tongil variety, which in 1992 had gone down to almost less than 1% in favor of the lower yielding Japonica rice.

In South and Southeast Asia, MVs are now grown in more than half the rice crop area. The highest MV adoption is in the Philippines—almost 1 million ha or 94% of total rice area were planted to MVs in 1992 (Table 41). In India and Indonesia,

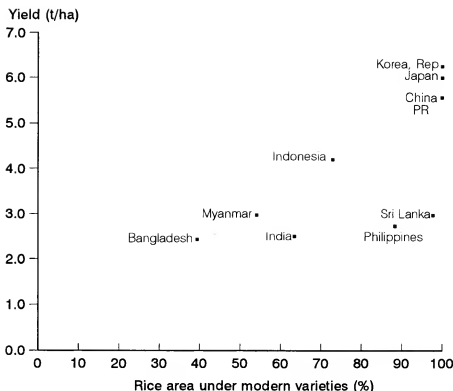


Fig. 9. Percent rice area under modern varieties and rice yield, 1985-93.

more than 75% of rice area has been planted to MVs in recent years. Almost 60% of rice area of Myanmar was planted to MVs in 1993. Although Pakistan's rice area is fully irrigated, MV adoption was only 41% in 1992 because the traditional variety Basmati rice commanded a price premium on the world market. The position of the country with respect to the adoption of MVs and the level of rice yield is shown in Figure 9.

Rice area under MVs, by state, for India and, by province, for the People's Republic of China is presented in Tables 42 and 43, respectively.

In India, Jammu and Kashmir has planted all of its rice area to MVs since 1989; in Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, Punjab, Tamil Nadu, and Uttar Pradesh, more than 75% of the total rice area was planted to MVs in 1990. Adoption of MVs in other states ranged from 30 to 59% in 1990, with Bihar showing the lowest MV adoption, only 30%.

In China, the area planted to hybrid rice was largest in Sichuan Province in 1987 (2.1 million ha or 69% of total rice area). However, Guizhou Province showed the fastest growth; in 1987, the area planted to hybrid rice was almost four times that of the 1986 level.

The IRRI Social Sciences Division sent out questionnaires to various national agricultural institutions to get infor-

mation on the areas planted to traditional and modern varieties in 1992-93. Some of the responses to the questionnaires are shown in Table 44.

Popular traditional and modern rice varieties categorized by varietal type, group, varietal niche, parent, line number, origin, and rice area planted are shown for selected countries in Table 44.

In Bangladesh, the most popular MV grown was BR11, planted on almost 2 million ha. In the People's Republic of China, hybrid rice ShanYou 63 was widely planted on 5.7 million ha in 1991. IR64 was the most popular variety in Indonesia, while in Madagascar the traditional variety Rojofotsy was still favored over MVs in 1992.

Basmati 385 was widely planted in Pakistan. In Thailand, more than 2 million ha were planted to RD6, an MV released in 1977.

Fertilizer and pesticide use and prices

Total consumption of manufactured mineral or chemical inorganic fertilizers, by country and geographical region, is presented in Table 45. The fertilizers are expressed in terms of elemental nitrogen (N), phosphorus pentoxide (P), and potassium oxide (K). Data on fertilizer use on rice, by country, are not available.

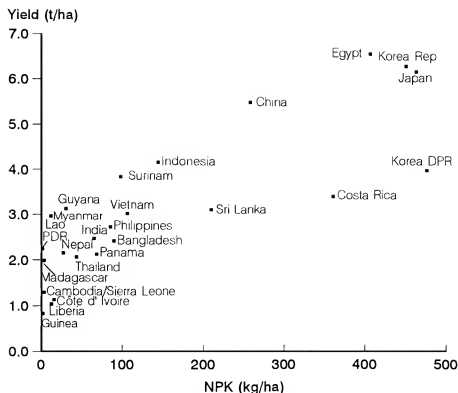


Fig. 10. NPK per hectare of arable land and rice yield, 1985-92. China includes Taiwan Province.

The availability of new land for expansion is gradually approaching zero, so agricultural output has to depend more on increasing the productivity of the existing land. Fertilizer is one of the crucial elements in achieving greater productivity of existing land. The high yield potential of MVs may not be realized unless accompanied by high levels of inputs such as water and fertilizer. The positive relationship between use of chemical fertilizers and rice yield is shown in Figure 10.

World fertilizer consumption was highest in 1988, reaching about 146 million t. Asia was the highest user of fertilizer amounting to 59 million t in 1992 (Table 45). However, world fertilizer consumption declined since 1989 because of the low level of N-P-K used in Europe and the former USSR.

The global rice pesticide market (in million US\$) is presented in Table 46. This includes each country's actual sales of herbicides, insecticides, and fungicides at the enduser level. Data were collected using internal industry audits and surveys of local companies involved in supplying each particular market.

Total pesticide sales were highest in Japan, amounting to US\$1.6 billion in 1993 (Table 46), followed by the Republic of Korea (US\$320 million), and China (US\$295 million). To-

tal sales in the United States were only US\$132 million, about half of the amount sold in China. The lowest pesticide sales of US\$20 million were recorded in Myanmar, 41% lower than what was sold in 1989. Indonesia also had cut down pesticide sales by almost 3 times those of the 1989 level, following the adoption of integrated pest management (IPM) practices.

Pesticide sales, by type, are shown in Tables 47-49. Of the three types of pesticides, global sales of insecticides were highest in all years shown.

The retail prices of N from urea for selected countries are shown in Table 50. For most countries, retail prices of N generally increased during the 1984-89 period. However, in Bangladesh, N price decreased by 4% from the 1990 level and in the Republic of Korea, N price decreased by 36% from the 1984 level.

World prices of major fertilizer raw materials are presented in Table 51. During the 1989-93 period, the price of urea was highest in 1991 when world price was US\$172/t. In 1993, however, the price of urea went down to US\$107/t or almost 20% below the 1989 level. On the other hand, the price of diammonium phosphate was consistently higher than the urea price since 1982. In 1988, the price of diammonium phos-

phate was US\$197/t compared with urea's price of US\$155/t.

Rice costs and returns

Three sets of data on socioeconomic characteristics and estimates of costs and returns for selected countries are discussed in this section.

Whenever possible, similar concepts, definitions, and estimation procedures were used in each set to enable comparison of data.

The first set (Tables 52 and 53) was based on farm surveys conducted by the IRRI Social Sciences Division or its collaborating institutions. The second set (Tables 54 and 55) was based on the results of a study conducted by the FAO in selected countries. The third set (Tables 56 and 57) was deduced from responses of selected national agricultural agencies to the IRRI Social Sciences Division's cost of rice production questionnaires.

The structure of factor payments and returns is reflected in the costs and returns tables. The concepts and definitions used in the calculations are:

- Gross returns, which include the gross value of rough rice production excluding value of byproducts (except in Table 53 where value of straw was included).
- Costs of current inputs, which include expenses on fertilizer, pesticides, seeds, fuel, and lubricants (in Table 53, costs of fuel and lubricants were not included due to unavailability of data).
- Rented fixed capital, which includes irrigation fees and costs of machine and work animal rentals.
- Owned fixed capital, which includes the imputed cost of machine and animal rentals and cost of repair and depreciation (in Table 53, costs of repair and depreciation were excluded because of lack of data).

- Labor costs, which relate to the cost of family and hired labor from land preparation to postharvest operations (cost of family labor is imputed based on the prevailing wage rates).
- Land rent (shown in Tables 55 and 57), which is actual rent paid by share tenants and fix renters and/or land tax while cost of land use for owner operators is imputed based on prevailing rental rates (in Table 53, however, land rent is regarded as residual, i.e., the value left after deducting from gross returns the costs of current inputs, fixed capital, and labor).
- Returns to own factors, which refer to the returns to family factors of production such as labor, capital, and land. These are estimated by subtracting costs of current inputs, hired labor, rented capital, and rented land from gross returns.
- Returns to own fixed capital, own labor, and land, which are obtained by deducting costs of current inputs, hired labor, and rented capital from gross returns.
- Returns to labor and land or net value added, which are obtained by subtracting costs of current inputs and fixed capital from gross returns. Net labor productivity is computed by dividing net value added by total mandays devoted to rice production.

The cost of production per ton of rice output is higher in African and Latin American countries than in Asia. Within Asia, the unit cost of production is higher in the middle and high income countries such as Japan and the Republic of Korea. The cost of rice production goes up with economic prosperity, as rapid development of the nonfarm sectors pushes up farm wage rates, land prices, and water charges.

Rice production,
area, and yield

Table 1. Rough rice production ('000 t), by country and geographical region, 1961-93.

YEAR ^a	WORLD	ASIA	Afghanistan	Bangladesh	Cambodia	China ^b	India	Indonesia	Iran	Iraq	Japan
1961	215678	198802	319	14426	2383	56160	53494	12084	600	68	16160
1962	226535	207391	319	13305	2039	65626	49826	13004	851	113	16927
1963	246970	227393	319	15935	2622	76401	55497	11595	861	143	16649
1964	262769	241918	380	15754	2760	85808	58962	12306	923	184	16356
1965	254126	232218	380	15751	2500	90655	45884	12975	1022	178	16126
1966	261043	240078	337	14363	2376	98365	45657	13650	1098	182	16564
1967	277565	253690	396	16757	2457	96702	56418	13222	960	315	18782
1968	288829	264094	402	17016	3251	97678	59642	17163	980	354	18779
1969	295398	270553	407	18007	2503	97967	60645	18020	1020	318	18200
1970	316439	290156	366	16715	3814	113068	63338	19331	1056	180	16493
1971	317877	292286	350	14897	2732	118097	64602	20058	1046	307	14148
1972	307998	282422	400	15134	1927	116405	58868	19394	1200	268	15451
1973	335465	308077	420	17863	1050	124553	66077	21490	1334	157	15778
1974	332770	303566	420	16930	635	126970	59650	22473	1313	69	15964
1975	358096	325891	435	19143	1080	128678	73352	22340	1430	61	17097
1976	348648	316077	448	17628	990	129196	63052	23301	1566	163	15288
1977	370509	338757	400	19451	900	131876	79006	23347	1400	199	17006
1978	386531	354488	428	19582	900	139986	80608	25781	1527	172	15736
1979	376625	342944	439	19109	538	146812	63476	26283	1248	158	14948
1980	398881	362104	415	20821	1717	142852	80312	29652	1311	167	12189
1981	411791	374311	390	20446	1490	146924	79883	32774	1624	162	12824
1982	424840	386328	364	21325	1949	164703	70772	33584	1605	163	12838
1983	450768	417802	350	21761	2039	171972	90048	35303	1216	111	12958
1984	467878	430520	334	21933	1260	181060	87553	38136	1484	109	14848
1985	471056	432963	317	22556	1812	171286	95818	39033	1776	149	14578
1986	471270	432261	336	23110	2093	174691	90779	39727	1784	141	14559
1987	464056	424420	324	23121	1815	176636	85339	40078	1803	196	13284
1988	490846	447514	343	23316	2500	171416	106369	41676	1419	141	12419
1989	517443	472551	320	26784	2672	182461	110311	44726	1854	232	12934
1990	520581	480123	333	26778	2500	191589	111517	45179	1981	229	13124
1991	517410	474130	335	27377	2400	186086	110591	44688	2357	189	12005
1992	527913	481935	300	27510	2221	188255	108845	48240	2360	260	13216
1993	527413	482549	300	28000	2500	187211	111011	47885	2646	215	9793

Korea DPR	Korea Rep	Lao PDR	Malaysia	Myanmar	Nepal	Pakistan	Philippines	Sri Lanka	Thailand	Turkey	Vietnam	Others ^c	YEAR ^a
1860	4679	540	1089	6834	2108	1690	3910	923	10150	233	8997	95	1961
1900	4074	510	1125	7671	2108	1643	3967	1029	11250	275	9747	82	1962
1920	5079	520	1190	7790	2109	1788	3843	1046	12171	217	9623	75	1963
1960	5344	735	1110	8507	2201	2025	3992	1074	11600	167	9697	73	1964
1980	4867	740	1256	8055	2207	1975	4073	764	11164	217	9370	79	1965
2000	5448	754	1227	6636	2007	2047	4094	981	13500	250	8464	78	1966
2100	5008	811	1205	7769	2119	2248	4561	1158	11198	233	9188	83	1967
2050	4442	771	1434	8023	2178	3048	4445	1360	12410	205	8366	97	1968
2100	5688	896	1591	7985	2241	3601	5464	1376	13410	211	8815	88	1969
2400	5476	903	1681	8162	2304	3298	5578	1616	13850	267	10173	87	1970
2675	5557	811	1817	8175	2344	3393	5325	1396	13744	292	10447	73	1971
3000	5496	817	1837	7357	2010	3495	4610	1312	12413	203	10748	77	1972
3100	5850	884	1980	8602	2416	3682	5159	1312	14899	265	11125	81	1973
3500	6174	905	2095	8583	2452	3470	5615	1602	13386	250	11023	87	1974
3700	6485	910	1997	9208	2605	3926	6112	1154	15300	250	10539	89	1975
3710	7249	661	1995	9319	2386	4106	6543	1253	15068	263	11827	65	1976
4280	8348	693	1898	9462	2282	4424	7254	1677	13921	275	10597	61	1977
4500	8532	724	1498	10528	2339	4908	7212	1890	17470	317	9790	60	1978
4600	7881	867	2095	10448	2060	4824	7685	1917	15758	375	11363	60	1979
4700	5311	1053	2045	13317	2464	4685	7646	2133	17368	238	11647	61	1980
4900	7149	1155	2020	14147	2560	5145	7911	2229	17774	330	12415	59	1981
5000	7308	1092	1884	14373	1833	5167	8534	2156	16879	350	14390	59	1982
5100	7608	1101	1734	14288	2757	5009	7295	2484	19549	315	14743	61	1983
5000	7970	1321	1572	14255	2709	4973	7829	2414	19905	280	15506	69	1984
5100	7855	1395	1849	14317	2804	4378	8806	2661	20264	270	15875	64	1985
5200	7871	1449	1747	14126	2372	5230	9247	2588	18868	275	16003	65	1986
5300	7596	1207	1700	13640	2982	4861	8540	2128	18428	275	15103	64	1987
5600	8260	1003	1783	13168	3283	4800	8971	2477	21263	263	17000	44	1988
5400	8100	1404	1839	13801	3390	4830	9459	2063	20601	330	18996	44	1989
4810	7722	1491	1960	13966	3502	4891	9319	2538	17193	230	19225	46	1990
4420	7293	1224	2140	13199	3223	4865	9673	2389	19810	200	19622	44	1991
4260	7303	1502	2070	14835	2585	4674	9129	2340	20180	215	21590	45	1992
2940	6597	1251	2100	17434	3100	5927	9530	2450	19090	225	22300	44	1993

Table 1. Continued

YEAR ^a	SOUTH AMERICA	Argentina	Brazil	Colombia	Ecuador	Guyana	Peru	Surinam	Uruguay
1961	7136	149	5392	474	203	215	332	72	61
1962	7523	182	5557	585	209	221	391	79	61
1963	7534	178	5740	550	211	164	270	75	77
1964	8474	190	6345	600	240	300	351	88	47
1965	9865	268	7580	672	266	246	291	101	90
1966	8095	165	5802	680	278	280	374	98	84
1967	9212	217	6792	662	240	223	461	120	116
1968	8983	283	6652	786	147	176	286	116	104
1969	8983	345	6394	694	274	191	444	113	134
1970	10443	407	7553	753	230	210	587	145	139
1971	9371	288	6593	904	198	185	591	136	122
1972	9556	294	6761	1043	191	159	482	123	128
1973	10260	260	7160	1176	235	169	483	164	137
1974	10478	316	6764	1570	266	281	494	162	158
1975	11929	351	7782	1622	364	292	537	175	186
1976	13509	309	9757	1481	356	173	570	173	217
1977	13229	320	8994	1402	328	355	594	203	228
1978	11686	310	7296	1878	225	305	468	224	226
1979	12269	312	7595	1830	318	240	560	236	248
1980	14325	266	9776	1784	381	282	441	258	288
1981	13401	286	8228	1878	434	276	760	281	330
1982	15318	437	9735	2023	384	303	826	301	419
1983	12444	277	7742	1814	274	246	799	268	323
1984	14558	476	9027	1715	437	300	1140	302	340
1985	14327	379	9025	1742	397	280	878	299	421
1986	15167	378	10374	1521	576	242	726	300	394
1987	15828	352	10419	1473	781	226	1169	272	335
1988	17770	415	11809	1777	955	227	1129	265	381
1989	17566	490	11044	2102	867	237	1091	261	537
1990	13343	439	7421	2117	840	144	966	196	365
1991	15344	348	9488	1739	848	250	814	229	522
1992	16336	592	10006	1735	1030	285	829	261	600
1993	16410	470	10193	1650	814	300	950	260	700

Venezuela	Others ^c	N&C AMERICA	Costa Rica	Cuba	Dominican Rep	Mexico	Panama	USA	Others ^c	YEAR ^a
81	157	3435	60	207	113	333	109	2458	155	1961
103	135	3973	65	231	111	289	110	2996	171	1962
131	138	4199	69	237	118	296	111	3187	181	1963
166	147	4263	78	123	143	274	128	3319	198	1964
200	151	4499	85	55	167	378	151	3460	203	1965
195	139	4932	90	64	178	372	140	3856	232	1966
223	158	5230	95	72	167	418	151	4054	273	1967
245	188	5936	107	114	181	347	163	4724	300	1968
244	150	5476	94	225	195	395	165	4169	233	1969
226	193	5263	80	375	210	405	131	3801	261	1970
153	201	5344	92	353	212	369	136	3890	292	1971
165	210	5297	89	318	214	403	125	3875	273	1972
302	174	5790	104	336	226	451	162	4208	303	1973
297	170	6893	127	437	259	492	178	5098	302	1974
363	257	7940	196	447	219	717	185	5826	350	1975
206	267	7076	150	451	312	463	144	5246	310	1976
496	309	6477	169	456	308	567	186	4501	290	1977
502	252	7942	198	457	351	402	162	6040	332	1978
614	316	8055	220	425	377	494	161	5985	393	1979
619	230	8747	231	478	398	445	170	6629	396	1980
681	247	10633	222	461	400	644	195	8289	422	1981
609	281	9184	146	520	447	511	176	6969	415	1982
449	252	6853	247	518	501	416	199	4523	449	1983
408	413	8678	223	555	507	484	175	6296	438	1984
472	434	8803	224	524	494	808	186	6122	445	1985
322	334	8390	185	571	468	545	180	6049	392	1986
373	428	8212	154	466	517	591	180	5879	425	1987
383	429	9418	205	489	460	456	183	7253	372	1988
420	517	9298	157	536	462	527	207	7007	402	1989
401	454	9191	210	437	428	394	222	7080	420	1990
660	446	9153	208	366	466	347	203	7142	421	1991
595	403	10191	233	275	514	361	205	8149	454	1992
645	428	8965	170	186	530	325	212	7081	461	1993

Table 1. Continued

YEAR ^a	AFRICA	Côte d' Ivoire	Egypt	Guinea	Liberia	Mada-gascar	Mali	Nigeria	Sierra Leone	Tanzania, United Rep
1961	4318	156	1142	219	115	1465	185	133	264	94
1962	5680	229	2038	319	120	1552	190	257	315	104
1963	5834	219	2219	250	125	1559	165	195	331	183
1964	5925	248	2036	330	130	1648	158	220	373	147
1965	5495	250	1789	272	135	1589	162	231	399	73
1966	5572	276	1678	275	141	1603	158	199	434	133
1967	6697	345	2278	350	142	1706	169	385	468	110
1968	7061	365	2591	375	152	1797	136	353	426	104
1969	7206	303	2561	368	163	1844	157	325	507	126
1970	7325	316	2604	350	190	1946	169	343	450	132
1971	7414	385	2534	375	200	1893	157	388	464	171
1972	7338	320	2507	375	210	1924	110	447	479	187
1973	7408	335	2275	413	225	1913	125	487	479	301
1974	7738	406	2242	417	248	2013	220	525	519	223
1975	8149	496	2423	422	229	1972	259	515	571	265
1976	8049	460	2300	426	245	2043	227	387	580	346
1977	7957	477	2272	418	256	2067	199	408	600	314
1978	8130	504	2351	366	244	1922	158	515	620	387
1979	8384	534	2511	348	249	2045	240	750	500	262
1980	8618	420	2382	480	243	2109	132	1090	513	291
1981	8570	390	2236	485	269	2011	135	1241	500	200
1982	8930	450	2441	490	284	1970	153	1250	524	320
1983	8959	360	2442	396	290	2147	216	1280	460	349
1984	8953	514	2236	403	298	2131	109	1300	504	355
1985	9488	540	2311	437	289	2178	214	1430	430	428
1986	10021	560	2445	510	288	2230	225	1416	525	548
1987	10387	580	2406	515	298	2178	237	1780	466	645
1988	10561	610	2132	525	298	2149	288	2082	493	615
1989	12873	635	2679	560	294	2380	338	3303	518	718
1990	12475	660	3167	616	100	2420	282	2500	504	740
1991	13721	687	3448	688	109	2342	454	3185	544	625
1992	14207	714	3910	757	102	2450	410	3453	411	371
1993	14802	675	4159	733	71	2550	388	3400	486	631

^a Relates to calendar year when bulk of harvest took place.^b Includes Taiwan Province.^c Countries generally producing less than 100,000t.

Zaire	Others ^c	EUROPE	Italy	portugal	Spain	Others ^c	Former USSR	OCEANIA	Australia	Others ^c	YEAR ^a
71	474	1615	700	177	394	344	230	143	118	25	1961
74	482	1552	663	174	392	323	253	163	139	24	1962
60	528	1498	564	166	399	369	350	164	140	24	1963
55	580	1586	624	181	398	383	438	166	146	20	1964
49	546	1333	509	137	350	337	543	174	158	16	1965
91	584	1501	621	154	375	351	662	203	187	16	1966
100	644	1667	745	146	366	410	833	237	221	16	1967
187	575	1517	648	149	362	358	989	249	228	21	1968
170	682	1864	862	176	411	415	1029	288	267	21	1969
180	645	1787	819	195	382	391	1190	274	250	24	1970
184	663	1809	892	162	361	394	1329	324	301	23	1971
196	583	1586	751	164	346	325	1532	268	248	20	1972
199	656	1963	1027	168	387	381	1640	327	309	18	1973
201	724	1886	1026	130	367	363	1779	429	409	20	1974
208	789	1903	992	133	379	399	1870	413	387	26	1975
213	822	1635	885	97	406	247	1860	442	416	26	1976
214	732	1475	682	95	379	319	2060	554	528	26	1977
213	850	1807	947	135	401	324	1964	515	490	25	1978
227	718	2021	1107	145	427	342	2231	722	692	30	1979
234	724	1846	968	155	433	290	2594	646	613	33	1980
245	858	1772	893	112	444	323	2314	790	759	31	1981
251	797	1886	1008	143	402	333	2306	888	857	31	1982
271	748	1736	1021	109	224	382	2430	545	519	26	1983
286	817	1967	1009	134	440	384	2539	662	632	30	1984
312	919	2175	1123	147	462	443	2400	900	866	34	1985
315	959	2281	1137	147	496	501	2405	744	716	28	1986
330	952	2148	1064	142	483	459	2428	632	608	24	1987
350	1019	2212	1093	143	507	469	2597	773	740	33	1988
370	1078	2121	1246	144	342	389	2253	781	748	33	1989
392	1094	2404	1291	156	571	386	2166	879	846	33	1990
418	1221	2305	1236	170	582	317	1986	770	740	30	1991
440	1189	2323	1314	110	564	335	1941	980	957	23	1992
458	1251	2060	1318	85	316	341	1748	879	858	21	1993

Source: FAO AGROSTAT 1994. FAO, Rome.

Table 2. Harvested area of rough rice (000 ha), by country and geographical region, 1961-93.

YEAR ^a	WORLD	ASIA	Afghanistan	Bangladesh	Cambodia	China ^b	India	Indonesia	Iran	Iraq	Japan
1961	115501	106958	210	8484	2182	27030	34694	6857	280	25	3312
1962	119582	110388	210	8694	2286	27700	35695	7283	300	40	3295
1963	120277	110827	210	9008	2233	28479	35809	6731	300	55	3276
1964	125218	114951	220	9229	2377	30340	36462	6980	322	65	3264
1965	124985	114257	220	9360	2344	30566	35470	7327	360	65	3259
1966	125843	115489	222	9075	2182	31285	35251	7691	429	65	3258
1967	127713	116693	206	9889	2020	31192	36437	7516	343	103	3267
1968	129450	117940	206	9742	2324	30653	36966	8021	358	109	3284
1969	131374	119681	206	10314	1944	31187	37680	8014	364	106	3279
1970	133128	120949	202	9913	2399	33101	37592	8135	378	75	2927
1971	134808	122774	200	9298	1880	35635	37758	8324	344	109	2698
1972	132581	120857	210	9630	1399	35848	36688	7983	377	94	2643
1973	136866	124387	210	9878	811	35778	38285	8404	434	64	2622
1974	137235	124431	210	9792	555	36253	37888	8509	436	31	2724
1975	142128	128156	210	10330	900	36482	39475	8495	461	30	2764
1976	142159	127106	210	9882	900	36967	38511	8369	413	52	2779
1977	143994	129404	210	10028	900	36268	40283	8360	404	63	2757
1978	143786	129273	210	10102	900	35173	40482	8929	386	55	2548
1979	141570	126916	206	10160	774	34560	39414	8804	381	59	2497
1980	145008	129331	191	10309	1441	34482	40152	9005	462	55	2377
1981	145796	129844	174	10461	1493	33928	40708	9382	459	55	2278
1982	142220	126328	166	10586	1674	33697	38262	8988	483	58	2257
1983	143534	129392	155	9738	1740	33782	41244	9162	429	49	2273
1984	145247	130270	149	10223	1418	33765	41159	9764	442	39	2315
1985	144412	130032	141	10398	1462	32634	41137	9902	479	53	2342
1986	145288	130157	150	10609	1535	32798	41167	9988	471	50	2303
1987	142240	126508	162	10322	1378	32694	38806	9923	527	70	2146
1988	147083	130940	180	10224	1879	32459	41736	10138	465	50	2110
1989	150139	133334	170	10478	1932	33176	42167	10531	519	73	2097
1990	147995	133014	175	10435	1890	33519	42687	10502	524	79	2074
1991	147816	132240	173	10245	1910	33019	42308	10282	573	86	2049
1992	148424	131852	175	10178	1844	32469	41388	11103	596	90	2106
1993	147517	131665	175	10900	1800	31403	41200	10932	700	87	2139

Korea DPR	Korea Rep	Lao PDR	Malaysia	Myanmar	Nepal	Pakistan	Philippines	Sri Lanka	Thailand	Turkey	Vietnam	Others ^c	YEAR ^a
420	1128	620	516	4254	1088	1214	3179	496	6120	59	4744	46	1961
440	1139	590	544	4654	1090	1186	3161	527	6540	81	4889	44	1962
450	1155	600	553	4878	1090	1286	3087	535	6500	55	4497	40	1963
480	1195	916	556	4976	1101	1356	3200	538	6310	35	4988	41	1964
480	1228	916	582	4848	1111	1393	3109	432	6270	50	4826	41	1965
500	1231	930	573	4517	1100	1410	3096	534	7353	65	4681	41	1966
500	1235	960	598	4706	1154	1420	3304	545	6400	60	4796	42	1967
500	1151	656	660	4763	1162	1555	3332	567	6940	45	4894	52	1968
530	1220	665	684	4672	1173	1622	3196	536	7259	57	4930	43	1969
560	1203	665	705	4809	1182	1503	3195	719	6854	66	4724	42	1970
600	1190	665	735	4764	1201	1456	3332	694	7096	65	4692	38	1971
612	1191	665	766	4528	1140	1480	3194	639	6780	51	4900	39	1972
612	1182	665	752	4880	1227	1512	3528	672	7743	60	5030	38	1973
700	1205	686	740	4884	1240	1604	3632	797	7333	58	5112	42	1974
700	1218	680	750	5030	1256	1710	3674	597	8357	55	4940	42	1975
800	1215	525	733	4912	1262	1749	3641	635	8167	54	5297	33	1976
900	1230	561	723	4864	1264	1899	3602	782	8750	58	5469	29	1977
900	1230	579	583	5011	1263	2026	3561	839	8935	70	5463	28	1978
1000	1233	689	738	4442	1254	2035	3637	790	8654	75	5485	29	1979
1000	1233	732	717	4801	1276	1933	3459	824	9200	52	5600	30	1980
1000	1224	745	711	4809	1297	1976	3443	842	9105	73	5652	29	1981
1000	1188	737	682	4562	1265	1978	3240	746	8940	77	5712	30	1982
1000	1228	694	666	4659	1334	1999	3141	778	9606	70	5612	33	1983
1000	1231	655	624	4601	1377	1999	3222	886	9630	64	5675	32	1984
1100	1237	668	665	4661	1391	1863	3403	867	9833	60	5704	32	1985
1300	1236	642	630	4666	1333	2066	3403	836	9194	55	5689	36	1986
1400	1262	542	645	4483	1423	1963	3256	679	9147	53	5589	38	1987
1400	1260	525	666	4527	1450	2042	3393	726	9906	51	5726	27	1988
1350	1257	596	662	4733	1433	2107	3497	690	9879	66	5896	25	1989
1200	1244	638	678	4760	1455	2113	3319	828	8792	46	6028	28	1990
1200	1208	557	691	4575	1412	2097	3425	791	9271	40	6303	25	1991
1150	1157	566	670	5056	1262	1973	3198	766	9558	43	6475	29	1992
1000	1135	539	665	5794	1240	2207	3450	790	8972	45	6466	26	1993

Table 2. Continued

YEAR ^a	SOUTH AMERICA	Argentina	Brazil	Colombia	Ecuador	Guyana	Peru	Surinam	Uruguay
1961	3911	46	3174	237	95	106	81	26	17
1962	4178	53	3350	298	112	99	91	27	18
1963	4484	52	3722	254	113	81	73	28	21
1964	5090	54	4182	303	109	148	82	30	21
1965	5593	68	4619	375	103	119	75	34	28
1966	4990	47	4005	350	111	137	96	29	30
1967	5234	62	4291	291	114	117	107	34	34
1968	5372	71	4459	277	112	115	76	35	31
1969	5540	88	4621	250	92	113	110	32	34
1970	5961	102	4979	233	87	111	140	39	36
1971	5688	77	4764	254	57	102	147	40	31
1972	5412	83	4533	274	91	80	118	37	31
1973	5737	77	4795	291	85	93	118	45	35
1974	5745	83	4665	369	103	116	116	44	43
1975	6489	93	5306	381	122	134	122	48	47
1976	7761	87	6656	356	135	97	133	48	52
1977	7208	91	5992	337	107	136	134	50	57
1978	6871	95	5624	434	81	115	114	55	58
1979	6763	102	5452	431	111	90	131	59	60
1980	7528	82	6243	414	127	95	103	65	67
1981	7498	82	6102	439	131	88	161	71	62
1982	7513	114	6025	474	132	95	181	73	69
1983	6393	81	5108	425	95	76	190	73	70
1984	6815	128	5351	371	139	93	235	75	79
1985	6190	105	4755	371	150	84	193	75	85
1986	6913	100	5585	325	228	74	161	75	82
1987	7481	90	5980	345	276	99	229	71	79
1988	7480	100	5959	383	288	74	219	70	81
1989	6873	105	5250	516	278	69	213	70	95
1990	5516	117	3947	521	269	51	185	52	78
1991	5659	86	4122	435	284	76	158	60	103
1992	6291	136	4687	424	310	81	166	69	120
1993	5912	106	4431	386	205	90	174	69	126

Vene- zuela	Others ^c	N&C AMERICA	Costa Rica	Cuba	Domini- can Rep	Mexico	Panama	USA	Others ^c	YEAR ^c
58	71	1238	48	150	58	146	100	643	93	1961
69	61	1321	52	164	58	134	100	717	96	1962
74	66	1300	51	140	60	135	103	717	94	1963
91	70	1266	54	71	65	133	121	723	99	1964
105	67	1264	55	38	76	138	133	725	99	1965
110	75	1350	56	32	76	153	132	796	105	1966
114	70	1397	57	44	81	168	130	797	120	1967
115	81	1569	62	72	88	139	129	952	127	1968
119	81	1505	52	128	84	153	126	861	101	1969
130	104	1403	43	195	83	150	93	734	105	1970
113	103	1375	36	168	74	154	96	736	111	1971
65	100	1377	32	170	67	156	105	736	111	1972
113	85	1598	65	225	66	150	105	878	109	1973
117	89	1783	80	204	67	173	112	1024	123	1974
114	122	2008	87	178	89	257	115	1140	142	1975
67	130	1768	80	163	114	159	122	1004	126	1976
166	138	1662	71	152	113	180	110	910	126	1977
166	129	1882	76	152	103	121	99	1202	129	1978
197	130	1889	80	147	109	151	94	1161	147	1979
201	131	2019	60	147	112	127	92	1340	141	1980
243	119	2298	80	144	111	180	100	1535	148	1981
227	123	2044	77	151	103	156	95	1320	142	1982
164	111	1582	73	149	105	133	98	878	146	1983
151	193	1855	72	161	117	126	93	1134	152	1984
181	191	1799	74	159	102	216	90	1009	149	1985
124	159	1678	60	171	112	158	86	955	136	1986
136	176	1649	51	153	112	155	83	944	151	1987
135	171	1831	58	151	100	126	84	1174	138	1988
93	184	1792	43	167	105	151	88	1087	151	1989
115	181	1807	61	142	99	105	98	1142	160	1990
152	183	1763	56	137	97	85	105	1123	160	1991
142	156	1916	62	130	102	84	104	1267	167	1992
150	175	1701	46	78	105	85	75	1146	166	1993

Table 2. Continued

YEAR ^a	AFRICA	Côte d'Ivoire	Egypt	Guinea	Liberia	Madagascar	Mali	Nigeria	Sierra Leone	Tanzania, United Rep
1961	2913	206	226	260	200	804	182	149	283	82
1962	3229	260	349	260	210	857	200	218	255	83
1963	3167	245	403	260	239	850	123	162	264	115
1964	3349	271	404	303	255	855	159	179	264	110
1965	3289	261	356	303	257	849	169	188	301	56
1966	3398	258	355	316	133	963	178	160	327	127
1967	3724	301	452	336	134	981	198	262	350	110
1968	3852	300	507	352	140	1009	162	235	320	128
1969	3882	288	502	411	147	980	133	258	310	129
1970	4016	289	480	408	154	997	172	255	327	151
1971	4134	282	478	415	162	997	169	304	356	153
1972	4064	282	481	415	170	1018	167	237	348	155
1973	4226	290	419	459	182	1053	185	373	351	131
1974	4307	317	442	464	201	1064	198	269	370	163
1975	4514	390	442	468	191	1078	220	261	380	204
1976	4540	398	453	473	200	1064	178	172	400	267
1977	4675	409	437	472	206	1175	178	246	410	243
1978	4680	428	435	406	194	1133	112	292	425	258
1979	4886	448	439	386	201	1163	243	400	400	260
1980	4965	360	408	534	197	1199	135	550	410	245
1981	5057	340	402	539	210	1185	116	600	400	280
1982	5186	350	431	545	210	1188	182	600	400	300
1983	5087	380	423	550	236	1189	188	630	370	224
1984	5105	411	414	556	232	1170	165	650	319	271
1985	5192	450	389	561	231	1184	185	670	340	237
1986	5386	509	423	567	233	1188	191	700	340	274
1987	5421	512	413	573	236	1098	163	745	357	351
1988	5605	519	352	578	233	1111	214	871	388	345
1989	6957	545	413	750	252	1146	219	1770	403	385
1990	6477	572	436	825	130	1165	197	1289	393	385
1991	7034	625	462	825	140	1140	251	1642	384	369
1992	7212	649	511	850	170	1165	225	1747	400	307
1993	7145	506	538	850	65	1200	240	1750	382	377

^a Relates to calendar year when bulk of harvest took place.^b Includes Taiwan Province.^c Countries generally producing less than 100,000 t.

Zaire	Others ^c	EUROPE	Italy	Portugal	Spain	Others ^c	Former USSR	OCEAN	Australia	Others ^c	Years ^a
88	433	330	123	38	62	107	118	34	20	14	1961
92	445	314	118	37	63	96	119	34	20	14	1962
75	431	317	115	37	63	102	147	35	22	13	1963
68	481	336	120	38	64	114	191	35	24	11	1964
102	447	331	126	35	59	111	217	34	25	9	1965
113	468	332	132	35	59	106	248	35	26	9	1966
125	475	345	144	32	60	109	281	39	30	9	1967
232	467	364	156	33	60	115	312	41	31	10	1968
213	511	392	169	38	64	121	328	45	34	11	1969
244	539	397	173	42	64	118	350	52	40	12	1970
250	568	396	175	42	61	118	390	52	41	11	1971
253	538	399	183	43	59	114	421	50	40	10	1972
258	525	402	190	39	61	112	462	54	45	9	1973
261	558	397	188	33	61	115	495	77	68	9	1974
268	612	374	174	30	62	108	500	87	76	11	1975
273	662	374	182	22	64	106	524	86	75	11	1976
277	622	395	186	34	68	107	546	104	92	12	1977
279	718	397	191	33	68	105	580	103	91	12	1978
284	662	383	183	35	69	96	610	123	110	13	1979
293	634	368	176	35	68	89	666	129	116	13	1980
301	684	347	169	25	69	84	634	118	106	12	1981
309	671	362	177	34	68	83	648	140	127	13	1982
318	579	340	183	26	41	90	651	89	77	12	1983
327	590	383	180	30	73	100	688	132	119	13	1984
389	556	392	186	30	75	101	671	136	122	14	1985
393	568	413	192	33	78	110	621	121	107	14	1986
411	562	416	190	33	76	117	657	109	96	13	1987
436	558	436	198	34	80	124	671	119	106	13	1988
460	614	416	206	34	59	117	656	111	97	14	1989
487	598	449	214	34	90	111	614	118	105	13	1990
519	677	418	205	33	94	86	599	102	89	13	1991
519	669	397	216	21	86	74	631	124	114	10	1992
530	707	366	229	15	50	72	611	116	106	10	1993

Source: FAO AGROSTAT 1994, FAO, Rome.

Table 3. Rough rice yield (t/ha), by country and geographical region, 1961-93.^a

YEAR ^b	WORLD	ASIA	Afghanistan	Bangladesh	Cambodia	China ^c	India	Indonesia	Iran	Iraq	Japan
1961	1.87	1.86	1.52	1.70	1.09	2.08	1.54	1.76	2.14	2.72	4.88
1962	1.89	1.88	1.52	1.53	0.89	2.37	1.40	1.79	2.84	2.83	5.14
1963	2.05	2.05	1.52	1.77	1.17	2.68	1.55	1.72	2.87	2.60	5.08
1964	2.10	2.10	1.73	1.71	1.16	2.83	1.62	1.76	2.87	2.83	5.01
1965	2.03	2.03	1.73	1.68	1.07	2.97	1.29	1.77	2.84	2.74	4.95
1966	2.07	2.08	1.52	1.58	1.09	3.14	1.30	1.77	2.56	2.80	5.08
1967	2.17	2.17	1.92	1.69	1.22	3.10	1.55	1.76	2.80	3.06	5.75
1968	2.23	2.24	1.95	1.75	1.40	3.19	1.61	2.14	2.74	3.25	5.72
1969	2.25	2.26	1.98	1.75	1.29	3.14	1.61	2.25	2.80	3.00	5.55
1970	2.38	2.40	1.81	1.69	1.59	3.42	1.68	2.38	2.79	2.40	5.63
1971	2.36	2.38	1.75	1.60	1.45	3.31	1.71	2.41	3.04	2.82	5.24
1972	2.32	2.34	1.90	1.57	1.38	3.25	1.60	2.43	3.18	2.85	5.85
1973	2.45	2.48	2.00	1.81	1.29	3.48	1.73	2.56	3.07	2.45	6.02
1974	2.42	2.44	2.00	1.73	1.14	3.50	1.57	2.64	3.01	2.23	5.86
1975	2.52	2.54	2.07	1.85	1.20	3.53	1.86	2.63	3.10	2.03	6.19
1976	2.45	2.49	2.13	1.78	1.10	3.49	1.64	2.78	3.79	3.13	5.50
1977	2.57	2.62	1.90	1.94	1.00	3.64	1.96	2.79	3.47	3.16	6.17
1978	2.69	2.74	2.04	1.94	1.00	3.98	1.99	2.89	3.96	3.13	6.18
1979	2.66	2.70	2.13	1.88	0.70	4.25	1.61	2.99	3.28	2.68	5.99
1980	2.75	2.80	2.17	2.02	1.19	4.14	2.00	3.29	2.84	3.04	5.13
1981	2.82	2.88	2.24	1.95	1.00	4.33	1.96	3.49	3.54	2.95	5.63
1982	2.99	3.06	2.19	2.01	1.16	4.89	1.85	3.74	3.32	2.81	5.69
1983	3.14	3.23	2.26	2.23	1.17	5.09	2.18	3.85	2.83	2.27	5.70
1984	3.22	3.30	2.24	2.15	0.89	5.36	2.13	3.91	3.36	2.79	6.41
1985	3.26	3.33	2.25	2.17	1.24	5.25	2.33	3.94	3.71	2.81	6.22
1986	3.24	3.32	2.24	2.18	1.36	5.33	2.21	3.98	3.79	2.82	6.32
1987	3.26	3.35	2.00	2.24	1.32	5.40	2.20	4.04	3.42	2.80	6.19
1988	3.34	3.42	1.91	2.28	1.33	5.28	2.55	4.11	3.05	2.82	5.89
1989	3.45	3.54	1.88	2.56	1.38	5.50	2.62	4.25	3.57	3.18	6.17
1990	3.52	3.61	1.90	2.57	1.32	5.72	2.61	4.30	3.78	2.90	6.33
1991	3.50	3.59	1.94	2.67	1.26	5.64	2.61	4.35	4.11	2.20	5.86
1992	3.56	3.66	1.71	2.70	1.20	5.80	2.63	4.34	3.96	2.89	6.28
1993	3.58	3.66	1.71	2.57	1.39	5.96	2.69	4.38	3.78	2.47	4.58

Korea DPR	Korea Rep	Lao PDR	Malaysia	Myanmar	Nepal	Pakistan	Philippines	Sri Lanka	Thailand	Turkey	Vietnam	Others ^d	YEAR ^b
4.43	4.15	0.87	2.11	1.61	1.94	1.39	1.23	1.86	1.66	3.95	1.90	2.07	1961
4.32	3.58	0.86	2.07	1.65	1.93	1.39	1.25	1.95	1.72	3.40	1.99	1.86	1962
4.27	4.40	0.87	2.15	1.60	1.93	1.39	1.24	1.96	1.87	3.95	2.14	1.88	1963
4.08	4.47	0.80	2.00	1.71	2.00	1.49	1.25	2.00	1.84	4.77	1.94	1.78	1964
4.13	3.96	0.81	2.16	1.66	1.99	1.42	1.31	1.77	1.78	4.34	1.94	1.93	1965
4.00	4.43	0.81	2.14	1.47	1.82	1.45	1.32	1.84	1.84	3.85	1.81	1.90	1966
4.20	4.06	0.84	2.02	1.65	1.84	1.58	1.38	2.12	1.75	3.88	1.92	1.98	1967
4.10	3.86	1.18	2.17	1.68	1.87	1.96	1.33	2.40	1.79	4.56	1.71	1.87	1968
3.96	4.66	1.35	2.33	1.71	1.91	2.22	1.71	2.57	1.85	3.70	1.79	2.05	1969
4.29	4.55	1.36	2.38	1.70	1.95	2.19	1.75	2.25	2.02	4.05	2.15	2.07	1970
4.46	4.67	1.22	2.47	1.72	1.95	2.33	1.60	2.01	1.94	4.49	2.23	1.92	1971
4.90	4.61	1.23	2.40	1.62	1.76	2.36	1.44	2.05	1.83	3.98	2.19	1.97	1972
5.07	4.95	1.33	2.63	1.76	1.97	2.44	1.46	1.95	1.92	4.42	2.21	2.13	1973
5.00	5.12	1.32	2.83	1.76	1.98	2.16	1.55	2.01	1.83	4.31	2.16	2.07	1974
5.29	5.32	1.34	2.66	1.83	2.07	2.30	1.66	1.93	1.83	4.55	2.13	2.12	1975
4.64	5.97	1.26	2.72	1.90	1.89	2.35	1.80	1.97	1.84	4.87	2.23	1.97	1976
4.76	6.79	1.24	2.63	1.95	1.81	2.33	2.01	2.14	1.59	4.74	1.94	2.10	1977
5.00	6.94	1.25	2.57	2.10	1.85	2.42	2.03	2.25	1.96	4.53	1.79	2.14	1978
4.60	6.39	1.26	2.84	2.35	1.64	2.37	2.11	2.43	1.82	5.00	2.07	2.07	1979
4.70	4.31	1.44	2.85	2.77	1.93	2.42	2.21	2.59	1.89	4.58	2.08	2.03	1980
4.90	5.84	1.55	2.84	2.94	1.97	2.60	2.30	2.65	1.95	4.52	2.20	2.03	1981
5.00	6.15	1.48	2.76	3.15	1.45	2.61	2.63	2.89	1.89	4.55	2.52	1.97	1982
5.10	6.20	1.59	2.60	3.07	2.07	2.51	2.32	3.19	2.04	4.50	2.63	1.85	1983
5.00	6.47	2.02	2.52	3.10	1.97	2.49	2.43	2.72	2.07	4.38	2.73	2.16	1984
4.64	6.35	2.09	2.78	3.07	2.02	2.35	2.59	3.07	2.06	4.50	2.78	2.00	1985
4.00	6.37	2.26	2.77	3.03	1.78	2.53	2.72	3.10	2.05	5.00	2.81	1.81	1986
3.79	6.02	2.23	2.64	3.04	2.10	2.48	2.62	3.13	2.01	5.19	2.70	1.68	1987
4.00	6.56	1.91	2.68	2.91	2.26	2.35	2.64	3.41	2.15	5.16	2.97	1.63	1988
4.00	6.44	2.36	2.78	2.92	2.37	2.29	2.70	2.99	2.09	5.00	3.22	1.76	1989
4.01	6.21	2.34	2.89	2.93	2.41	2.31	2.81	3.07	1.96	5.00	3.19	1.64	1990
3.68	6.04	2.20	3.10	2.89	2.28	2.32	2.82	3.02	2.14	5.00	3.11	1.76	1991
3.70	6.31	2.65	3.09	2.93	2.05	2.37	2.85	3.05	2.11	5.00	3.33	1.55	1992
2.94	5.81	2.32	3.16	3.01	2.50	2.69	2.76	3.10	2.13	5.00	3.45	1.69	1993

Table 3. Continued

YEAR ^b	SOUTH AMERICA	Argentina	Brazil	Colombia	Ecuador	Guyana	Peru	Surinam	Uruguay
1961	1.82	3.24	1.70	2.00	2.14	2.03	4.10	2.77	3.59
1962	1.80	3.43	1.66	1.96	1.87	2.23	4.30	2.93	3.39
1963	1.68	3.42	1.54	2.17	1.87	2.02	3.70	2.68	3.67
1964	1.66	3.52	1.52	1.98	2.20	2.03	4.28	2.93	2.24
1965	1.76	3.94	1.64	1.79	2.58	2.07	3.88	2.97	3.21
1966	1.62	3.51	1.45	1.94	2.50	2.04	3.90	3.38	2.80
1967	1.76	3.50	1.58	2.27	2.11	1.91	4.31	3.53	3.41
1968	1.67	3.99	1.49	2.84	1.31	1.53	3.76	3.31	3.35
1969	1.62	3.92	1.38	2.78	2.98	1.69	4.04	3.53	3.94
1970	1.75	3.99	1.52	3.23	2.64	1.89	4.19	3.72	3.86
1971	1.65	3.74	1.38	3.56	3.47	1.81	4.02	3.40	3.94
1972	1.77	3.54	1.49	3.81	2.10	1.99	4.08	3.32	4.13
1973	1.79	3.38	1.49	4.04	2.76	1.82	4.09	3.64	3.91
1974	1.82	3.81	1.45	4.25	2.58	2.42	4.26	3.68	3.67
1975	1.84	3.77	1.47	4.26	2.98	2.18	4.40	3.65	3.96
1976	1.74	3.55	1.47	4.16	2.64	1.78	4.29	3.60	4.17
1977	1.84	3.52	1.50	4.16	3.07	2.61	4.43	4.06	4.00
1978	1.70	3.26	1.30	4.33	2.78	2.65	4.11	4.07	3.90
1979	1.81	3.06	1.39	4.25	2.86	2.67	4.27	4.00	4.13
1980	1.90	3.24	1.57	4.31	3.00	2.97	4.28	3.97	4.30
1981	1.79	3.49	1.35	4.28	3.31	3.14	4.72	3.96	5.32
1982	2.04	3.83	1.62	4.27	2.91	3.19	4.56	4.12	6.07
1983	1.95	3.42	1.52	4.27	2.88	3.24	4.21	3.67	4.61
1984	2.14	3.72	1.69	4.62	3.14	3.23	4.85	4.03	4.30
1985	2.31	3.61	1.90	4.70	2.65	3.33	4.55	3.99	4.95
1986	2.19	3.78	1.86	4.68	2.53	3.27	4.51	4.00	4.80
1987	2.12	3.91	1.74	4.27	2.83	2.28	5.10	3.83	4.24
1988	2.38	4.15	1.98	4.64	3.32	3.07	5.16	3.79	4.70
1989	2.56	4.67	2.10	4.07	3.12	3.43	5.12	3.73	5.65
1990	2.42	3.75	1.88	4.06	3.12	2.82	5.22	3.77	4.68
1991	2.71	4.05	2.30	4.00	2.99	3.29	5.15	3.82	5.07
1992	2.60	4.35	2.13	4.09	3.32	3.52	4.99	3.78	5.00
1993	2.78	4.43	2.30	4.27	3.97	3.33	5.46	3.77	5.56

Vene- zuela	Others ⁴ N&C AMERICA	Costa Rica	Cuba	Domini- can Rep	Mexico	Panama	USA	Others ^d	YEAR ^b
1.40	2.21	2.77	1.25	1.38	1.95	2.28	1.09	3.82	1961
1.49	2.21	3.01	1.25	1.41	1.91	2.16	1.10	4.18	1962
1.77	2.09	3.23	1.35	1.69	1.97	2.19	1.08	4.44	1963
1.82	2.10	3.37	1.44	1.73	2.20	2.06	1.06	4.59	1964
1.90	2.25	3.56	1.55	1.45	2.20	2.74	1.14	4.77	1965
1.77	1.85	3.65	1.61	2.00	2.34	2.43	1.06	4.84	1966
1.96	2.26	3.74	1.67	1.64	2.06	2.49	1.16	5.09	1967
2.13	2.32	3.78	1.73	1.58	2.06	2.50	1.26	4.96	1968
2.05	1.85	3.64	1.81	1.76	2.32	2.58	1.31	4.84	1969
1.74	1.86	3.75	1.86	1.92	2.53	2.70	1.41	5.18	1970
1.35	1.95	3.89	2.56	2.10	2.86	2.40	1.42	5.29	1971
2.54	2.10	3.85	2.78	1.87	3.19	2.58	1.19	5.26	1972
2.67	2.05	3.62	1.60	1.49	3.42	3.01	1.54	4.79	1973
2.54	1.91	3.87	1.59	2.14	3.87	2.84	1.59	4.98	1974
3.18	2.11	3.95	2.25	2.51	2.46	2.79	1.61	5.11	1975
3.07	2.05	4.00	1.88	2.77	2.74	2.91	1.18	5.23	1976
2.99	2.24	3.90	2.38	3.00	2.73	3.15	1.69	4.95	1977
3.02	1.95	4.22	2.61	3.01	3.41	3.32	1.64	5.02	1978
3.12	2.43	4.26	2.75	2.89	3.46	3.27	1.71	5.16	1979
3.08	1.76	4.33	3.85	3.25	3.55	3.50	1.85	4.95	1980
2.80	2.08	4.63	2.78	3.20	3.60	3.58	1.95	5.40	1981
2.68	2.28	4.49	1.90	3.44	4.34	3.28	1.85	5.28	1982
2.74	2.27	4.33	3.38	3.48	4.77	3.13	2.03	5.15	1983
2.70	2.14	4.68	3.10	3.45	4.33	3.84	1.88	5.55	1984
2.61	2.27	4.89	3.03	3.30	4.84	3.74	2.07	6.07	1985
2.60	2.10	5.00	3.08	3.34	4.18	3.45	2.09	6.33	1986
2.74	2.43	4.98	3.02	3.05	4.62	3.81	2.17	6.23	1987
2.84	2.51	5.14	3.53	3.24	4.60	3.62	2.18	6.18	1988
4.52	2.81	5.19	3.65	3.21	4.40	3.49	2.35	6.45	1989
3.49	2.51	5.09	3.44	3.08	4.32	3.75	2.27	6.20	1990
4.34	2.44	5.19	3.71	2.67	4.80	4.08	1.93	6.36	1991
4.19	2.58	5.32	3.76	2.12	5.04	4.30	1.97	6.43	1992
4.30	2.45	5.27	3.70	2.38	5.05	3.82	2.83	6.18	1993

Table 3. Continued

YEAR ^b	AFRICA	Côte d'Ivoire	Egypt	Guinea	Liberia	Mada-gascar	Mali	Nigeria	Sierra Leone	Tanzania, United Rep
1961	1.48	0.76	5.05	0.84	0.58	1.82	1.02	0.89	0.93	1.15
1962	1.76	0.88	5.84	1.23	0.57	1.81	0.95	1.18	1.24	1.25
1963	1.84	0.89	5.51	0.96	0.52	1.83	1.34	1.20	1.25	1.59
1964	1.77	0.92	5.04	1.09	0.51	1.93	0.99	1.23	1.41	1.34
1965	1.67	0.96	5.03	0.90	0.53	1.87	0.96	1.23	1.33	1.30
1966	1.64	1.07	4.73	0.87	1.06	1.66	0.89	1.24	1.33	1.05
1967	1.80	1.15	5.04	1.04	1.06	1.74	0.85	1.47	1.34	1.00
1968	1.83	1.22	5.11	1.07	1.09	1.78	0.84	1.50	1.33	0.81
1969	1.86	1.05	5.10	0.90	1.11	1.88	1.18	1.26	1.64	0.98
1970	1.82	1.09	5.43	0.86	1.23	1.95	0.98	1.35	1.38	0.87
1971	1.79	1.37	5.30	0.90	1.23	1.90	0.93	1.28	1.30	1.12
1972	1.81	1.13	5.21	0.90	1.24	1.89	0.66	1.89	1.38	1.21
1973	1.75	1.16	5.43	0.90	1.24	1.82	0.68	1.31	1.36	2.30
1974	1.80	1.28	5.07	0.90	1.23	1.89	1.11	1.95	1.40	1.37
1975	1.81	1.27	5.48	0.90	1.20	1.83	1.18	1.97	1.50	1.30
1976	1.77	1.16	5.08	0.90	1.23	1.92	1.28	2.25	1.45	1.30
1977	1.70	1.17	5.20	0.89	1.24	1.76	1.12	1.66	1.46	1.29
1978	1.74	1.18	5.40	0.90	1.26	1.70	1.41	1.76	1.46	1.50
1979	1.72	1.19	5.72	0.90	1.24	1.76	0.99	1.88	1.25	1.01
1980	1.74	1.17	5.84	0.90	1.23	1.76	0.98	1.98	1.25	1.19
1981	1.69	1.15	5.56	0.90	1.28	1.70	1.16	2.07	1.25	0.71
1982	1.72	1.29	5.66	0.90	1.35	1.66	0.84	2.08	1.31	1.07
1983	1.76	0.95	5.77	0.72	1.23	1.81	1.15	2.03	1.24	1.56
1984	1.75	1.25	5.40	0.72	1.28	1.82	0.66	2.00	1.58	1.31
1985	1.83	1.20	5.94	0.78	1.25	1.84	1.16	2.13	1.26	1.81
1986	1.86	1.10	5.78	0.90	1.24	1.88	1.18	2.02	1.54	2.00
1987	1.92	1.13	5.83	0.90	1.26	1.98	1.45	2.39	1.31	1.84
1988	1.88	1.18	6.06	0.91	1.28	1.93	1.35	2.39	1.27	1.78
1989	1.85	1.17	6.49	0.75	1.17	2.08	1.54	1.87	1.29	1.86
1990	1.93	1.15	7.26	0.75	0.77	2.08	1.43	1.94	1.28	1.92
1991	1.95	1.10	7.46	0.83	0.78	2.05	1.81	1.94	1.42	1.69
1992	1.97	1.10	7.65	0.89	0.60	2.10	1.82	1.98	1.03	1.21
1993	2.07	1.33	7.73	0.86	1.09	2.13	1.62	1.94	1.27	1.67

^a Computed using Tables 1 and 2.^b Relates to calendar year when bulk of harvest took place.^c Includes Taiwan Province.^d Countries generally producing less than 100,000 t.

Zaire	Others ^d	EUROPE	Italy	Portugal	Spain	Others ^d	Former USSR	OCEANIA	Australia	Others ^d	YEAR ^b
0.81	1.09	4.89	5.69	4.66	6.35	3.21	1.95	4.21	5.90	1.79	1961
0.80	1.08	4.94	5.62	4.70	6.22	3.36	2.13	4.79	6.95	1.71	1962
0.80	1.23	4.73	4.90	4.49	6.33	3.62	2.38	4.69	6.36	1.85	1963
0.81	1.21	4.72	5.20	4.76	6.22	3.36	2.29	4.74	6.08	1.82	1964
0.48	1.22	4.03	4.04	3.91	5.93	3.04	2.50	5.12	6.32	1.78	1965
0.81	1.25	4.52	4.70	4.40	6.36	3.31	2.67	5.80	7.19	1.78	1966
0.80	1.36	4.83	5.17	4.56	6.10	3.76	2.96	6.08	7.37	1.78	1967
0.81	1.23	4.17	4.15	4.52	6.03	3.11	3.17	6.07	7.35	2.10	1968
0.80	1.33	4.76	5.10	4.63	6.42	3.43	3.14	6.40	7.85	1.91	1969
0.74	1.20	4.50	4.73	4.64	5.97	3.31	3.40	5.27	6.25	2.00	1970
0.74	1.17	4.57	5.10	3.86	5.92	3.34	3.41	6.23	7.34	2.09	1971
0.77	1.08	3.97	4.10	3.81	5.86	2.85	3.64	5.36	6.20	2.00	1972
0.77	1.25	4.88	5.41	4.31	6.34	3.40	3.55	6.06	6.87	2.00	1973
0.77	1.30	4.75	5.46	3.94	6.02	3.16	3.59	5.57	6.01	2.22	1974
0.78	1.29	5.09	5.70	4.43	6.11	3.69	3.74	4.75	5.09	2.36	1975
0.78	1.24	4.37	4.86	4.41	6.34	2.33	3.55	5.14	5.55	2.36	1976
0.77	1.18	3.73	3.67	2.79	5.57	2.98	3.77	5.33	5.74	2.17	1977
0.76	1.18	4.55	4.96	4.09	5.90	3.09	3.39	5.00	5.38	2.08	1978
0.80	1.08	5.28	6.05	4.14	6.19	3.56	3.66	5.87	6.29	2.31	1979
0.80	1.14	5.02	5.50	4.43	6.37	3.26	3.89	5.01	5.28	2.54	1980
0.81	1.25	5.11	5.28	4.48	6.43	3.85	3.65	6.69	7.16	2.58	1981
0.81	1.19	5.21	5.69	4.21	5.91	4.01	3.56	6.34	6.75	2.38	1982
0.85	1.29	5.11	5.58	4.19	5.46	4.24	3.73	6.12	6.74	2.17	1983
0.87	1.38	5.14	5.61	4.47	6.03	3.84	3.69	5.02	5.31	2.31	1984
0.80	1.65	5.55	6.04	4.90	6.16	4.39	3.58	6.62	7.10	2.43	1985
0.80	1.69	5.52	5.92	4.45	6.36	4.55	3.87	6.15	6.69	2.00	1986
0.80	1.69	5.16	5.60	4.30	6.36	3.92	3.70	5.80	6.33	1.85	1987
0.80	1.83	5.07	5.52	4.21	6.34	3.78	3.87	6.50	6.98	2.54	1988
0.80	1.76	5.10	6.05	4.24	5.80	3.32	3.43	7.04	7.71	2.36	1989
0.80	1.83	5.35	6.03	4.59	6.34	3.48	3.53	7.45	8.06	2.54	1990
0.81	1.80	5.51	6.03	5.15	6.19	3.69	3.32	7.55	8.31	2.31	1991
0.85	1.78	5.85	6.08	5.24	6.56	4.53	3.08	7.90	8.39	2.30	1992
0.86	1.77	5.63	5.76	5.67	6.32	4.74	2.86	7.58	8.09	2.10	1993

Table 4. Rough rice production (000 t), People's Republic of China, by province, 1961-92.

YEAR	CHINA	Bei-jing	Tian-jin	Hebei	Liao-ning	Ji-lin	Heilong-jiang	Shang-hai	Jiang-su	Zhe-jiang	Anhui	Fujian	Jiang-xi
1961	54199	35	175	246	315	392	260	847	3902	4585	2468	2405	5567
1962	62747	41	179	251	310	346	230	886	4271	5251	3162	2685	5396
1963	73058	61	183	377	480	446	255	1072	6256	6611	4686	3005	5708
1964	82552	78	187	536	664	511	240	1248	7238	7189	4745	3435	6431
1965	87933	115	191	520	802	590	280	1185	7351	7550	4815	3550	7409
1966	95405	92	194	166	849	672	388	1384	8613	8476	5116	3383	7640
1967	93367	118	293	246	1118	928	462	1373	7816	7983	4705	3383	7263
1968	94065	166	252	274	1294	944	532	1324	7634	7824	5469	3542	7771
1969	93935	190	166	266	970	583	407	1539	8329	8588	4572	3542	8097
1970	107955	320	320	481	1500	955	400	1543	9048	9168	6328	4666	9299
1971	115206	310	260	555	1590	985	440	1510	11515	8675	7335	4835	9310
1972	113352	145	22	250	1152	450	200	1659	11145	10043	7946	4990	9270
1973	121742	106	20	235	1665	932	375	1999	12320	10321	8900	4854	8857
1974	123919	165	52	310	1805	1050	560	1752	11716	9802	8846	5051	9326
1975	125565	195	35	365	1950	1290	745	1768	11360	9335	8515	5110	10020
1976	125808	140	25	285	1545	910	505	1845	12605	9820	10015	4815	9760
1977	128560	185	55	375	1870	1140	655	1703	11045	10020	8975	5305	10400
1978	136922	230	130	545	2075	1220	745	1904	12820	11910	8565	6070	10790
1979	143745	185	255	630	2120	1020	720	1815	13015	13020	8890	6485	12350
1980	139257	295	310	830	2355	1075	795	1165	11755	11760	7730	6715	11880
1981	143954	215	125	710	2490	1125	560	1251	13065	11810	9450	6810	12165
1982	161238	225	110	760	2535	1445	710	1516	14375	14240	10435	7160	13465
1983	168865	270	100	825	2905	1515	915	1475	16050	13045	9600	7560	14080
1984	178253	260	135	750	3310	1910	1240	1778	17495	15105	11360	7310	14925
1985	168569	249	174	780	2630	1841	1629	1539	16385	13578	11629	6811	14758
1986	172224	244	215	756	3207	1751	2208	1746	17027	13684	12223	6550	14069
1987	174417	240	239	771	3372	2230	2257	1749	16518	13368	11892	7158	15090
1988	171224	239	288	811	3481	2245	2435	1732	16586	12957	11702	7163	14835
1989	183015	234	294	852	2839	1856	2317	1813	17802	13312	12908	7657	15296
1990	191748	216	282	912	3692	2894	3322	1814	17289	13214	13401	7653	16159
1991	187351	225	330	891	3909	3063	3445	1850	16489	14330	10360	7741	15870
1992	186137	211	394	955	4122	3030	3766	1716	17282	12998	12235	7330	14736

Shan dong	Henan	Hubei	Hunan	Guang- dong	Guang- xi	Sichuan	Guizhou	Yun- nan	Shaan- xi	Ning- xia	Xin- jiang	Others	YEAR
20	404	3472	6552	8160	3563	5862	1621	2616	449	86	88	110	1961
29	511	5024	8284	9180	3739	7638	1938	2748	409	96	77	68	1962
56	842	6889	7788	10256	3336	9123	1929	2893	498	124	96	90	1963
223	954	7058	9482	10669	4382	10444	2726	3258	531	116	122	90	1964
561	886	7760	9313	11675	4680	11500	3030	3260	558	132	154	68	1965
595	800	8666	11358	11919	5682	12285	2690	3422	628	166	182	40	1966
290	800	7681	11006	12392	5963	12505	2776	3258	651	166	148	46	1967
330	995	7750	11544	11875	5852	11775	2853	3184	523	154	148	59	1968
286	995	7222	11339	12680	6324	10764	2621	3488	602	154	148	66	1969
334	1100	9095	13184	13245	6864	12450	2868	3697	670	166	177	78	1970
685	1435	9675	14160	13890	7415	12900	3085	3430	730	210	190	81	1971
785	1681	10028	13595	13387	7476	12150	2139	3734	676	183	175	72	1972
652	1860	11161	14751	13104	8432	12670	3234	4006	808	207	205	70	1973
410	2050	11939	15304	14844	8750	12760	2842	3382	719	238	174	75	1974
610	2000	11565	16140	14330	8390	13610	2985	4000	715	270	195	67	1975
760	1795	12245	16055	14275	7925	12680	3125	3700	625	110	200	43	1976
700	2105	12110	16135	15510	8100	13855	3665	3440	690	225	230	67	1977
600	1950	12080	18755	14190	9115	14315	3345	4115	815	280	275	83	1978
655	1610	12645	20005	15420	10070	14350	3260	3825	795	250	245	110	1979
740	1780	10380	19425	16230	10070	15370	3250	3875	755	330	255	132	1980
650	2045	12000	19985	14790	9815	16390	2870	4360	530	370	260	113	1981
505	1750	13535	21800	17445	11745	17705	3500	4640	795	395	325	122	1982
595	2180	13705	24580	17915	12080	19390	3765	4570	845	400	380	120	1983
575	2390	15670	24165	17930	10655	20340	4070	5010	935	420	370	145	1984
625	2263	15717	23388	15614	9860	19261	3243	4830	883	419	306	157	1985
630	2063	16236	24643	15437	9866	20032	3412	4400	932	421	316	156	1986
574	1977	15950	24142	16514	10690	19797	3419	4580	947	439	362	142	1987
484	1622	15761	23666	15740	9466	20434	3060	4583	900	453	393	188	1988
642	2428	17433	24922	17604	11324	21353	3273	4675	1006	486	414	275	1989
829	2700	17896	25173	18312	12390	22511	3603	5094	1004	519	473	396	1990
909	2429	16101	25344	18080	12182	21995	4148	5169	1027	560	461	443	1991
781	2787	17465	24231	17251	12429	21406	3790	5012	996	418	423	373	1992

Sources: State Statistical Bureau. China Agricultural Yearbook (various issues).
China National Rice Research Institute. Rice Economy Database.

Table 5. Area planted to rough rice (000 ha), People's Republic of China, by province, 1961-92.

YEAR	CHINA	Bei-jing	Tian-jin	Hebei	Liao-ning	Ji-lin	Heilong-jiang	Shang-hai	Jiang-su	Zhe-jiang	Anhui	Fujian	Jiang-xi
1961	26429	12	39	115	175	156	175	218	1869	2010	1458	1284	2987
1962	26964	11	40	110	154	137	132	225	1817	2069	1579	1303	2911
1963	27682	15	41	136	154	138	123	233	1933	2123	1790	1293	2931
1964	29572	19	42	201	191	164	147	249	1942	2265	1853	1366	3110
1965	30221	25	43	216	258	185	146	270	1918	2279	1742	1316	3216
1966	30615	23	45	65	246	194	143	272	2034	2303	1770	1388	3241
1967	30568	24	54	81	267	207	150	269	1939	2288	1641	1388	3198
1968	30024	31	56	97	300	217	150	278	1937	2312	1673	1364	3169
1969	30593	43	44	92	375	237	172	294	2088	2363	1792	1364	3283
1970	32558	61	56	131	385	248	153	325	2370	2451	1962	1467	3327
1971	34918	65	55	145	367	255	165	345	2971	2451	2141	1713	3365
1972	35142	36	18	95	368	272	171	350	3135	2485	2278	1682	3297
1973	35089	21	6	58	345	222	129	357	2930	2515	2352	1724	3358
1974	35512	31	13	66	347	233	159	357	2886	2515	2379	1704	3374
1975	35727	36	7	73	347	252	193	359	2971	2490	2385	1715	3393
1976	36217	37	6	76	380	311	241	361	3111	2510	2585	1699	3374
1977	35526	41	13	83	372	292	226	360	2902	2505	2543	1680	3440
1978	34421	49	38	110	380	282	224	343	2661	2504	2247	1689	3380
1979	33873	50	63	124	374	261	206	325	2703	2475	2195	1670	3387
1980	33755	52	64	145	386	253	210	305	2677	2514	2238	1686	3384
1981	33295	49	34	132	397	254	224	273	2598	2500	2127	1651	3363
1982	33056	41	23	128	406	260	239	283	2501	2500	2112	1613	3339
1983	33136	46	24	127	403	266	245	298	2520	2508	2057	1618	3324
1984	33178	44	24	131	432	285	278	301	2516	2500	2169	1587	3327
1985	32070	43	31	128	480	324	390	270	2431	2388	2140	1477	3265
1986	32266	40	35	123	501	351	507	285	2422	2355	2185	1485	3251
1987	32193	38	41	125	533	368	581	276	2399	2376	2208	1494	3269
1988	31987	36	46	133	554	380	553	260	2384	2354	2184	1483	3211
1989	32701	36	49	146	553	390	604	258	2420	2380	2273	1509	3298
1990	33062	34	46	148	543	418	673	253	2455	2384	2310	1512	3293
1991	32590	34	58	150	548	433	747	248	2351	2378	2250	1492	3154
1992	32090	32	56	149	557	442	778	235	2447	2318	2244	1477	2982

Shan-dong	Henan	Hubei	Hunan	Guang-dong	Guang-xi	Sichuan	Guizhou	Yun-nan	Shaan-xi	Ning-xia	Xing-jiang	Others	YEAR
19	243	1657	3303	4285	1964	2542	584	958	161	58	84	72	1961
20	262	1853	3224	4363	1996	2788	673	987	143	53	65	48	1962
31	342	2111	3261	4267	1857	2978	628	973	159	50	70	45	1963
102	383	2286	3540	4340	2032	3227	753	1026	164	47	77	47	1964
233	329	2364	3826	4020	2352	3313	791	1043	167	48	88	32	1965
229	326	2409	3927	4058	2423	3336	781	1064	165	51	106	13	1966
109	326	2342	3917	4054	2425	3749	765	1038	167	51	101	17	1967
117	321	2250	3826	4049	2429	3288	784	1039	165	51	101	21	1968
106	321	2304	3926	4104	2508	3032	761	1045	160	51	101	28	1969
125	333	2651	4242	4177	2672	3249	768	1055	167	49	102	32	1970
225	430	2999	4494	4369	2761	3445	792	1027	171	47	100	20	1971
301	460	2921	4396	4330	2747	3622	789	1042	174	47	98	25	1972
207	479	2980	4594	4348	2866	3424	805	1039	174	44	93	18	1973
139	499	3098	4613	4395	2935	3594	805	1048	172	42	91	18	1974
166	474	3096	4561	4415	2977	3651	791	1050	170	46	94	15	1975
212	468	3066	4566	4463	3004	3575	800	1038	171	52	95	16	1976
184	449	3087	4555	4382	2965	3317	801	1011	161	44	93	20	1977
155	429	2895	4524	4325	2892	3125	795	1039	160	47	106	23	1978
172	402	2731	4507	4252	2830	3005	755	1043	156	48	107	32	1979
173	417	2708	4412	4164	2764	3062	775	1028	163	46	98	32	1980
139	395	2590	4416	4059	2792	3126	770	1078	161	49	89	29	1981
100	395	2605	4390	4004	2773	3124	782	1104	159	50	95	30	1982
105	411	2617	4419	4029	2737	3159	778	1107	161	50	96	31	1983
108	446	2621	4401	3934	2661	3165	780	1130	160	51	96	32	1984
112	435	2539	4247	3606	2471	3129	774	1074	157	50	74	37	1985
107	412	2540	4328	3606	2519	3112	736	1049	156	51	69	40	1986
101	414	2558	4255	3554	2504	3031	721	1020	156	53	77	39	1987
88	402	2527	4294	3487	2463	3073	728	1009	154	55	83	46	1988
102	427	2606	4354	3583	2494	3113	732	1008	158	57	84	67	1989
124	440	2636	4370	3590	2544	3124	741	1026	159	60	84	95	1990
148	477	2623	4298	3476	2475	3111	721	1012	162	61	80	103	1991
118	508	2538	4188	3290	2465	3119	745	993	161	62	76	110	1992

Sources: China Statistical Bureau, China Agricultural Yearbook (various issues).
China National Rice Research Institute, Rice Economy Database.

Table 6. Rough rice yield (t/ha), People's Republic of China, by province, 1961-92.^a

YEAR	CHINA	Bei-jing	Tian-jin	Hebei	Liao-ning	Jilin	Heilong-jiang	Shang-hai	Jiang-su	Zhe-jiang	Anhui	Fujian	Jiang xi
1961	2.05	2.92	4.49	2.14	1.80	2.52	1.48	3.89	2.09	2.28	1.69	1.87	1.86
1962	2.33	3.82	4.48	2.28	2.01	2.52	1.74	3.94	2.35	2.54	2.00	2.06	1.85
1963	2.64	4.13	4.46	2.76	3.12	3.24	2.07	4.59	3.24	3.11	2.62	2.32	1.95
1964	2.79	4.09	4.45	2.67	3.48	3.11	1.63	5.01	3.73	3.17	2.56	2.51	2.07
1965	2.91	4.54	4.44	2.41	3.11	3.18	1.92	4.39	3.83	3.31	2.76	2.70	2.30
1966	3.12	4.06	4.34	2.54	3.45	3.46	2.70	5.08	4.23	3.68	2.89	2.44	2.36
1967	3.05	4.90	5.44	3.04	4.18	4.48	3.08	5.11	4.03	3.49	2.87	2.44	2.27
1968	3.13	5.32	4.52	2.82	4.32	4.34	3.54	4.77	3.94	3.38	3.27	2.60	2.45
1969	3.07	4.44	3.73	2.90	2.58	2.46	2.37	5.24	3.99	3.63	2.55	2.60	2.47
1970	3.32	5.21	5.73	3.68	3.89	3.85	2.62	4.75	3.82	3.74	3.23	3.18	2.80
1971	3.30	4.80	4.72	3.82	4.33	3.86	2.66	4.38	3.88	3.54	3.43	2.82	2.77
1972	3.23	4.01	1.22	2.62	3.13	1.66	1.17	4.74	3.55	4.04	3.49	2.97	2.81
1973	3.47	5.05	3.23	4.02	4.82	4.20	2.92	5.60	4.20	4.10	3.78	2.82	2.64
1974	3.49	5.27	3.96	4.70	5.21	4.51	3.52	4.90	4.06	3.90	3.72	2.96	2.76
1975	3.51	5.36	4.77	4.98	5.63	5.12	3.86	4.93	3.82	3.75	3.57	2.98	2.95
1976	3.47	3.80	3.87	3.75	4.07	2.93	2.10	5.12	4.05	3.91	3.87	2.83	2.89
1977	3.62	4.51	4.10	4.50	5.03	3.90	2.89	4.73	3.81	4.00	3.53	3.16	3.02
1978	3.98	4.74	3.45	4.95	5.46	4.33	3.32	5.55	4.82	4.76	3.81	3.59	3.19
1979	4.24	3.70	4.06	5.09	5.66	3.91	3.49	5.59	4.81	5.26	4.05	3.88	3.65
1980	4.13	5.65	4.83	5.71	6.11	4.25	3.78	3.82	4.39	4.68	3.45	3.98	3.51
1981	4.32	4.36	3.68	5.40	6.27	4.43	2.50	4.59	5.03	4.72	4.44	4.13	3.62
1982	4.88	5.43	4.77	5.95	6.25	5.55	2.97	5.36	5.75	5.70	4.94	4.44	4.03
1983	5.10	5.85	4.14	6.51	7.20	5.69	3.73	4.95	6.37	5.20	4.67	4.67	4.24
1984	5.37	5.86	5.70	5.73	7.66	6.71	4.47	5.91	6.95	6.04	5.24	4.61	4.49
1985	5.26	5.74	5.64	6.11	5.48	5.68	4.18	5.71	6.74	5.69	5.43	4.61	4.52
1986	5.34	6.08	6.08	6.14	6.40	4.98	4.36	6.12	7.03	5.81	5.59	4.41	4.33
1987	5.42	6.24	5.89	6.15	6.32	6.06	3.89	6.33	6.88	5.63	5.39	4.79	4.62
1988	5.35	6.64	6.22	6.11	6.28	5.90	4.40	6.66	6.96	5.51	5.36	4.83	4.62
1989	5.60	6.50	5.94	5.84	5.13	4.76	3.84	7.02	7.36	5.59	5.68	5.07	4.64
1990	5.80	6.35	6.13	6.16	6.80	6.92	4.94	7.17	7.04	5.54	5.80	5.06	4.91
1991	5.75	6.62	5.69	5.94	7.13	7.07	4.61	7.46	7.01	6.03	4.60	5.19	5.03
1992	5.80	6.59	7.04	6.41	7.40	6.86	4.84	7.30	7.06	5.61	5.45	4.96	4.94

Shan-dong	Henan	Hubei	Hunan	Guang-dong	Guang-xi	Sichuan	Guizhou	Yun-nan	Shaan-xi	Ning-xi	Xing-jiang	Others	YEAR
1.04	1.66	2.10	1.98	1.90	1.81	2.31	2.78	2.73	2.78	1.49	1.04	1.53	1961
1.42	1.95	2.71	2.57	2.10	1.87	2.74	2.88	2.78	2.87	1.83	1.19	1.42	1962
1.79	2.46	3.26	2.39	2.40	1.80	3.06	3.07	2.97	3.12	2.45	1.38	2.01	1963
2.18	2.49	3.09	2.68	2.46	2.16	3.24	3.62	3.17	3.24	2.44	1.58	1.93	1964
2.40	2.69	3.28	2.43	2.90	1.99	3.47	3.83	3.12	3.35	2.74	1.75	2.13	1965
2.59	2.45	3.60	2.89	2.94	2.34	3.68	3.44	3.22	3.80	3.25	1.72	3.05	1966
2.67	2.45	3.28	2.81	3.06	2.46	3.34	3.63	3.14	3.90	3.25	1.47	2.68	1967
2.83	3.10	3.44	3.02	2.93	2.41	3.58	3.64	3.06	3.18	2.99	1.47	2.83	1968
2.71	3.10	3.13	2.89	3.09	2.52	3.55	3.44	3.34	3.76	2.99	1.47	2.35	1969
2.68	3.30	3.43	3.11	3.17	2.57	3.83	3.73	3.50	4.01	3.36	1.74	2.45	1970
3.05	3.34	3.23	3.15	3.18	2.69	3.74	3.90	3.34	4.27	4.47	1.89	3.97	1971
2.61	3.65	3.43	3.09	3.09	2.72	3.35	2.71	3.58	3.89	3.89	1.78	2.91	1972
3.15	3.88	3.74	3.21	3.01	2.94	3.70	4.02	3.85	4.64	4.68	2.20	3.87	1973
2.96	4.11	3.85	3.32	3.38	2.98	3.55	3.53	3.23	4.19	5.62	1.90	4.12	1974
3.67	4.22	3.74	3.54	3.25	2.82	3.73	3.78	3.81	4.20	5.86	2.08	4.51	1975
3.59	3.83	3.99	3.52	3.20	2.64	3.55	3.91	3.56	3.65	2.10	2.11	2.69	1976
3.81	4.69	3.92	3.54	3.54	2.73	4.18	4.57	3.40	4.29	5.14	2.48	3.35	1977
3.87	4.55	4.17	4.15	3.28	3.15	4.58	4.21	3.96	5.10	5.93	2.60	3.68	1978
3.81	4.01	4.63	4.44	3.63	3.56	4.77	4.32	3.67	5.09	5.24	2.28	3.41	1979
4.29	4.27	3.83	4.40	3.90	3.64	5.02	4.20	3.77	4.65	7.11	2.59	4.17	1980
4.68	5.18	4.63	4.53	3.64	3.52	5.24	3.73	4.05	3.28	7.55	2.92	3.84	1981
5.07	4.43	5.20	4.97	4.36	4.24	5.67	4.48	4.20	5.01	7.85	3.44	4.00	1982
5.67	5.31	5.24	5.56	4.45	4.41	6.14	4.84	4.13	5.25	7.95	3.97	3.91	1983
5.30	5.36	5.98	5.49	4.56	4.00	6.43	5.22	4.43	5.85	8.26	3.86	4.53	1984
5.59	5.20	6.19	5.51	4.33	3.99	6.16	4.19	4.50	5.63	8.41	4.11	4.30	1985
5.91	5.01	6.39	5.69	4.28	3.92	6.44	4.64	4.19	5.97	8.24	4.56	3.89	1986
5.69	4.77	6.24	5.67	4.65	4.27	6.53	4.74	4.49	6.07	8.30	4.68	3.60	1987
5.48	4.03	6.24	5.51	4.51	3.84	6.65	4.20	4.54	5.83	8.29	4.75	4.10	1988
6.30	5.69	6.69	5.72	4.91	4.54	6.86	4.47	4.64	6.36	8.51	4.94	4.10	1989
6.69	6.14	6.79	5.76	5.10	4.87	7.21	4.86	4.96	6.31	8.65	5.63	4.17	1990
6.14	5.09	6.14	5.90	5.20	4.92	7.07	5.75	5.11	6.34	9.18	5.76	4.30	1991
6.62	5.49	6.88	5.79	5.24	5.04	6.86	5.09	5.05	6.19	6.74	5.57	3.39	1992

^a Derived by dividing production by area as shown in Tables 4 and 5.

Table 7. Rough rice production (000 t) in India, by state, 1961-91.^a

YEAR	INDIA	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Jam & Kashmir	Karnataka
1961	51386	5912	2474	6503	764	... ^b	352	1971
1962	47119	5169	2251	6320	558	...	363	2064
1963	55334	6441	2774	6788	728	...	380	2091
1964	58099	6908	2867	7481	705	...	312	2438
1965	45983	5942	2771	6393	371	306	240	1740
1966	45660	7110	2689	2357	453	332	385	2388
1967	56419	7011	2970	7098	695	431	400	2695
1968	59642	6511	3377	7796	345	398	730	3002
1969	60646	7050	3087	6014	671	557	723	3435
1970	63338	7180	2970	6231	896	690	595	2929
1971	64603	7076	2862	7910	776	804	555	3146
1972	58868	6385	3266	6696	222	693	514	2623
1973	66077	8375	3099	6236	702	810	690	3197
1974	59369	8551	2976	6809	267	590	684	2978
1975	73110	9677	3436	7283	858	938	635	3388
1976	63052	7394	3358	7128	851	1222	528	2220
1977	79066	8406	3636	8244	1004	1448	782	3419
1978	80608	11148	3420	8234	802	1842	819	3260
1979	63476	9460	2943	5392	656	1413	730	3550
1980	80312	10516	3784	8453	835	1842	820	3312
1981	79883	11801	3511	6388	1105	1875	832	3503
1982	70681	11508	3875	4598	733	1913	862	3152
1983	90155	13187	3772	7450	1132	1988	890	3439
1984	87514	10364	3657	8066	1257	2045	854	3563
1985	96239	11489	4270	9113	681	2454	881	2808
1986	90779	9887	3578	9067	669	2315	886	3468
1987	84538	10604	4074	6916	419	1610	631	2862
1988	106369	15932	3659	10082	1299	2156	869	3762
1989	111147	15192	4192	9660	1226	2547	869	3564
1990	111517	14481	4905	9845	1187	2751	833	3621
1991	110591	14198	4796	6691	1036	2718	853	4276

Kerala	Madhya Pradesh	Maharashtra	Orissa	Punjab ^c	Tamil Nadu	Uttar Pradesh	West Bengal	Others	YEAR
1481	5162	2068	5495	694	5769	4936	7083	722	1961
1614	3479	1621	5429	681	5700	4628	6510	732	1962
1694	4996	2289	6464	806	5876	4917	8001	1089	1963
1661	5139	2211	6632	1001	6072	4968	8642	1062	1964
1496	2551	1340	4928	444	5564	3513	7340	1044	1965
1643	2966	1679	5537	483	6176	3090	7237	1135	1966
1686	4789	2156	5633	623	6173	4893	7812	1354	1967
2100	4507	2053	7048	690	5910	4383	9375	1417	1968
1822	4802	2147	6475	859	6798	5300	9525	1381	1969
1947	5546	2494	6512	1032	7955	5552	9210	1599	1970
2028	5554	2053	5429	1380	7953	5664	9763	1650	1971
2065	4625	1119	5975	1433	8354	4910	8573	1415	1972
1886	5471	2400	6607	1784	8384	5788	8699	1949	1973
2001	3632	2098	4749	1769	5362	5285	9815	1803	1974
2047	5766	3382	6798	2171	7804	6441	10300	2186	1975
1909	4196	2868	4951	2612	6291	6436	8923	2165	1976
1970	6656	3350	6538	3741	8515	7804	11221	2332	1977
1926	5343	3144	6671	4636	8293	8945	9891	2234	1978
1968	2738	2611	4377	4562	8657	3829	8812	1778	1979
1936	6065	3374	6451	4834	6243	8355	11197	2295	1980
2039	5745	3481	5837	5632	8369	8849	8749	2167	1981
1959	5177	2923	4488	6221	5257	8468	7424	2123	1982
1812	7199	3685	7682	6805	6699	10165	11912	2338	1983
1884	5642	2904	6259	7579	8043	10736	12140	2521	1984
1745	8640	3273	7804	8173	8401	12298	11752	2457	1985
1726	6268	2627	7325	9033	7844	11264	12694	2128	1986
1558	6151	2569	5273	8147	8244	9332	13907	2241	1987
1513	7000	3978	8025	7388	8385	13931	15839	2551	1988
1577	7009	3478	9521	9996	9347	14035	16385	2549	1989
1633	8607	3421	7992	9802	8674	15390	15654	2721	1990
1602	8142	3150	10091	10132	8891	13657	17633	2725	1991

^aEstimated from milled rice production figures using the standard ratio of 2:3.

^b... = data not available.

^cFrom 1961-64, includes data for Haryana.

Sources: 1961-84: India Directorate of Economics and Statistics.

All India estimate of rice (various issues).

1985-91: India Directorate of Economics and Statistics, Agricultural Situation in India (various issues).

Table 8. Harvested area of rough rice (000 ha) in India, by state, 1961-91.

YEAR	INDIA	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Jam Kashmir	Karnataka
1961	34255	3202	1772	5091	571	... ^a	227	976
1962	34934	3048	1801	5197	527	...	228	1004
1963	35623	3313	1844	5313	520	...	226	1030
1964	36074	3267	1904	5289	532	...	227	1049
1965	35273	3140	1930	5248	507	192	211	1000
1966	35598	3500	2030	4496	509	190	224	1068
1967	36437	3399	2083	5255	514	217	226	1135
1968	36966	3053	2199	5428	489	223	239	1193
1969	37680	3300	2243	5493	499	241	241	1106
1970	37592	3521	1968	5275	489	269	222	1160
1971	37758	3041	1968	5411	475	291	213	1120
1972	36688	2928	2069	4716	405	291	230	1010
1973	38285	3378	2078	5181	446	292	237	1150
1974	37888	3554	2058	5228	367	276	238	1173
1975	39475	3894	2241	5257	459	304	252	1194
1976	38511	3565	2286	5310	466	330	255	963
1977	40283	3662	2251	5589	484	371	259	1096
1978	40482	3979	2241	5579	469	459	267	1098
1979	39414	3469	2131	5099	458	509	268	1174
1980	40152	3600	2275	5551	478	472	265	1101
1981	40708	3824	2259	5368	499	506	264	1168
1982	38262	3638	2302	4498	476	489	274	1112
1983	41244	4164	2312	4901	540	533	276	1194
1984	41159	3498	2325	5173	566	557	275	1183
1985	40912	3468	2464	5384	492	585	266	1041
1986	41167	3459	2287	5368	511	628	267	1166
1987	38319	3123	2336	5079	347	462	263	1051
1988	41736	4218	2301	5309	536	599	264	1238
1989	42177	4191	2435	5328	601	621	264	1183
1990	42607	4036	2490	5390	531	661	266	1173
1991	42308	3921	2528	4792	598	640	272	1270

Kerala	Madhya Pradesh	Maharashtra	Orissa	Punjab ^b	Tamil Nadu	Uttar Pradesh	West Bengal	Others	YEAR
753	4194	1260	4075	446	2538	4174	4422	554	1961
803	4260	1283	4436	471	2566	4278	4445	587	1962
805	4255	1329	4309	464	2620	4349	4532	714	1963
801	4301	1361	4334	522	2638	4432	4671	746	1964
802	4206	1281	4262	296	2551	4207	4651	789	1965
804	4258	1376	4253	271	2662	4514	4649	794	1966
810	4170	1367	4337	314	2669	4398	4714	829	1967
926	4391	1372	4299	338	2572	4521	4839	884	1968
873	4319	1392	4506	384	2695	4534	5016	838	1969
875	4384	1356	4511	390	2686	4562	4956	968	1970
875	4526	1332	4646	450	2691	4722	4991	1006	1971
874	4579	1285	4476	476	2851	4374	5069	1055	1972
875	4544	1358	4734	520	2704	4471	5215	1102	1973
881	4526	1308	4432	569	2238	4530	5420	1090	1974
885	4588	1417	4684	567	2564	4622	5426	1121	1975
854	4635	1483	4380	674	2284	4653	5204	1169	1976
840	4733	1499	4405	831	2782	4867	5425	1189	1977
799	4821	1498	4372	1052	2756	5147	4765	1180	1978
793	4770	1485	4117	1167	2906	5052	4905	1111	1979
802	4860	1504	4191	1178	2230	5292	5176	1177	1980
807	4850	1515	4159	1270	2467	5389	5210	1153	1981
779	4863	1486	4058	1319	1889	5063	4862	1154	1982
740	4946	1521	4356	1481	2353	5352	5373	1202	1983
730	4957	1520	4304	1644	2508	5506	5198	1215	1984
678	4961	1541	4370	1703	2233	5510	5037	1179	1985
664	5041	1527	4394	1809	1955	5541	5376	1174	1986
604	4713	1370	4046	1717	2012	4585	5476	1135	1987
578	5009	1545	4282	1778	1887	5378	5622	1192	1988
572	5036	1520	4392	1908	2015	5358	5614	1139	1989
559	5118	1581	4404	2024	1856	5617	5813	1088	1990
545	5098	1572	4547	2074	2293	5298	5681	1179	1991

^a . . . indicates data not available.

^b From 1961-64, includes data for Haryana.

Sources: 1961-84: India Directorate of Economics and Statistics. ALL India estimate of Rice (various issues).

1985-91: India Directorate of Economics and Statistics, Agricultural Situation in India (various issues).

Table 9. Rough rice yield (t/ha) in India, by state, 1961-91.^a

YEAR	INDIA	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Jammu & Kashmir	Karnataka
1961	1.50	1.85	1.40	1.28	1.34	... ^b	1.55	2.02
1962	1.35	1.70	1.25	1.22	1.06	...	1.59	2.06
1963	1.55	1.94	1.50	1.28	1.40	...	1.68	2.03
1964	1.61	2.11	1.51	1.41	1.33	...	1.37	2.32
1965	1.30	1.89	1.44	1.22	0.73	1.59	1.14	1.74
1966	1.28	2.03	1.32	0.52	0.89	1.75	1.72	2.24
1967	1.55	2.06	1.43	1.35	1.35	1.99	1.77	2.37
1968	1.61	2.13	1.54	1.44	0.71	1.78	3.05	2.52
1969	1.61	2.14	1.38	1.09	1.34	2.31	3.00	3.11
1970	1.68	2.04	1.51	1.18	1.83	2.57	2.68	2.53
1971	1.71	2.33	1.45	1.46	1.63	2.76	2.61	2.81
1972	1.60	2.18	1.58	1.42	0.55	2.38	2.23	2.60
1973	1.73	2.48	1.49	1.20	1.57	2.77	2.91	2.78
1974	1.57	2.41	1.45	1.30	0.73	2.14	2.87	2.54
1975	1.85	2.49	1.53	1.39	1.87	3.09	2.52	2.84
1976	1.64	2.07	1.47	1.34	1.83	3.70	2.07	2.31
1977	1.96	2.30	1.62	1.48	2.07	3.90	3.02	3.12
1978	1.99	2.80	1.53	1.48	1.71	4.01	3.07	2.97
1979	1.61	2.73	1.38	1.06	1.43	2.78	2.72	3.02
1980	2.00	2.92	1.66	1.52	1.75	3.90	3.09	3.01
1981	1.96	3.09	1.55	1.19	2.21	3.71	3.15	3.00
1982	1.85	3.16	1.68	1.02	1.54	3.91	3.15	2.83
1983	2.19	3.17	1.63	1.52	2.10	3.73	3.22	2.93
1984	2.13	2.96	1.57	1.56	2.22	3.67	3.11	3.01
1985	2.35	3.31	1.73	1.69	1.38	4.19	3.31	2.70
1986	2.21	2.86	1.56	1.69	1.31	3.69	3.32	2.97
1987	2.21	3.40	1.74	1.36	1.21	3.48	2.40	2.72
1988	2.55	3.78	1.59	1.90	2.42	3.60	3.29	3.04
1989	2.64	3.62	1.72	1.81	2.04	4.10	3.29	3.01
1990	2.62	3.59	1.97	1.83	2.24	4.16	3.13	3.09
1991	2.61	3.62	1.90	1.40	1.73	4.25	3.14	3.37

Kerala	Madhya Pradesh	Maharashtra	Orissa	Punjab ^c	Tamil Nadu	Uttar Pradesh	West Bengal	Others	YEAR
1.97	1.23	1.64	1.35	1.56	2.27	1.18	1.60	1.30	1961
2.01	0.82	1.26	1.22	1.45	2.22	1.08	1.46	1.25	1962
2.10	1.17	1.72	1.50	1.74	2.24	1.13	1.77	1.53	1963
2.07	1.19	1.62	1.53	1.92	2.30	1.12	1.85	1.42	1964
1.87	0.61	1.05	1.16	1.50	2.18	0.84	1.58	1.32	1965
2.04	0.70	1.22	1.30	1.78	2.32	0.68	1.56	1.43	1966
2.08	1.15	1.58	1.30	1.98	2.31	1.11	1.66	1.63	1967
2.27	1.03	1.50	1.64	2.04	2.30	0.97	1.94	1.60	1968
2.09	1.11	1.54	1.44	2.24	2.52	1.17	1.90	1.65	1969
2.23	1.27	1.84	1.44	2.65	2.96	1.22	1.86	1.65	1970
2.32	1.23	1.54	1.17	3.07	2.96	1.20	1.96	1.64	1971
2.36	1.01	0.87	1.33	3.01	2.93	1.12	1.69	1.34	1972
2.16	1.20	1.77	1.40	3.43	3.10	1.29	1.67	1.77	1973
2.27	0.80	1.60	1.07	3.11	2.40	1.17	1.81	1.65	1974
2.31	1.26	2.39	1.45	3.83	3.04	1.39	1.90	1.95	1975
2.24	0.91	1.93	1.13	3.88	2.75	1.38	1.71	1.85	1976
2.35	1.41	2.23	1.48	4.50	3.06	1.60	2.07	1.96	1977
2.41	1.11	2.10	1.53	4.41	3.01	1.74	2.08	1.89	1978
2.48	0.57	1.76	1.06	3.91	2.98	0.76	1.80	1.60	1979
2.41	1.25	2.24	1.54	4.10	2.80	1.58	2.16	1.95	1980
2.53	1.18	2.30	1.40	4.43	3.39	1.64	1.68	1.88	1981
2.51	1.06	1.97	1.11	4.72	2.78	1.67	1.53	1.84	1982
2.43	1.46	2.42	1.76	4.59	2.92	1.90	2.22	1.92	1983
2.62	1.14	1.91	1.47	4.61	3.19	1.95	2.34	2.07	1984
2.58	1.75	2.13	1.81	4.80	3.77	2.24	2.34	2.08	1985
2.60	1.24	1.72	1.67	4.99	4.01	2.03	2.36	1.81	1986
2.58	1.31	1.88	1.30	4.74	4.10	2.04	2.54	1.98	1987
2.62	1.40	2.57	1.87	4.16	4.44	2.59	2.82	2.14	1988
2.76	1.39	2.29	2.17	5.24	4.64	2.62	2.92	2.24	1989
2.92	1.68	2.16	1.81	4.84	4.67	2.74	2.69	2.50	1990
2.94	1.60	2.00	2.22	4.89	3.88	2.58	3.10	2.31	1991

^a Computed from production and area data in Tables 7 and 8.

^b . . . = data not available.

^c From 1961-64, includes data for Haryana.

Imports and exports

Table 10. Imports of milled rice (000 t), by country and geographical region, 1961-92.

YEAR	WORLD	ASIA	Bah- rain	Bang- ladesh	Cambo- dia	China ^a	Hong- Kong	India	Indo- nesia	Iran
1961	6607	4825	5	492	. ^b	118	394	738	1064	11
1962	6857	4664	6	229	-	18	427	796	1096	19
1963	7652	5576	6	419	-	99	412	711	1075	7
1964	8333	5824	7	283	-	105	411	785	1025	3
1965	8412	5753	18	82	-	122	370	1071	193	41
1966	8194	5567	18	386	-	54	367	995	306	29
1967	8090	5684	9	439	-	28	421	781	347	10
1968	7547	5113	19	312	-	33	314	757	486	24
1969	7507	4988	8	240	-	10	347	777	605	2
1970	8856	6298	26	510	1	6	345	581	956	6
1971	8590	5572	26	348	18	* ^b	371	534	506	61
1972	8727	5951	27	681	58	3	458	301	734	92
1973	9022	6066	29	396	105	*	426	264	1863	12
1974	8406	5297	23	94	200	127	315	110	1132	192
1975	7298	4480	4	282	80	45	344	279	692	286
1976	8656	5118	25	417	-	126	362	415	1301	260
1977	9952	5546	60	104	-	8	341	134	1973	590
1978	10155	5320	31	318	-	171	344	4	1842	301
1979	12146	5902	42	38	200	120	361	3	1922	371
1980	13072	6980	40	548	317	131	359	4	2012	402
1981	13838	6921	25	79	132	286	362	52	538	587
1982	11489	4693	20	264	145	223	365	22	310	432
1983	11902	5596	25	317	72	77	371	211	1169	622
1984	11455	5464	31	167	100	103	366	509	414	588
1985	12538	5472	24	677	55	213	378	61	34	539
1986	12730	4447	22	53	80	326	368	21	28	475
1987	12352	5155	32	260	80	555	373	5	55	808
1988	11584	5370	30	674	105	314	364	703	33	209
1989	14555	6719	30	63	38	1206	407	545	268	882
1990	12305	4973	25	380	26	63	374	66	50	620
1991	12588	3892	30	16	20	146	392	12	171	525
1992	15235	5944	30	39	81	107	400	43	610	950

Iraq	Is- rael	Japan	Jordan	Korea Rep	Kuwait	Lao PDR	Leba- non	Malay- sia	Nepal	Oman	YEAR
70	9	142	24	1	18	88	17	424	-	5	1961
69	10	195	18	-	18	112	19	396	-	6	1962
14	10	236	23	117	20	126	16	501	-	6	1963
95	17	512	21	-	25	130	17	508	-	7	1964
1	18	1180	26	-	50	91	19	387	-	7	1965
*	36	812	25	12	47	73	21	317	-	7	1966
11	21	509	23	139	19	88	26	378	-	8	1967
1	28	271	18	247	42	61	18	312	-	9	1968
*	30	56	19	631	27	43	28	304	-	11	1969
2	36	75	15	770	39	70	25	355	-	16	1970
97	39	49	24	1007	55	66	25	236	-	30	1971
33	35	5	25	750	54	82	26	213	-	14	1972
16	34	25	16	335	28	68	20	299	-	25	1973
198	36	63	23	360	43	51	34	334	-	28	1974
151	47	37	11	483	73	22	19	146	-	25	1975
194	39	22	33	179	58	120	18	210	-	22	1976
235	42	43	24	65	76	100	25	283	-	28	1977
290	31	62	25	2	67	135	19	409	-	38	1978
320	51	15	35	241	95	115	21	238	-	47	1979
400	45	14	47	900	86	100	25	168	-	43	1980
350	33	75	37	2585	59	50	23	317	22	50	1981
370	59	66	46	310	144	18	30	403	27	116	1982
440	52	14	36	200	59	27	22	358	34	63	1983
510	48	165	55	1	89	38	20	437	12	83	1984
500	60	20	51	*	90	9	31	428	7	70	1985
550	65	21	72	*	79	9	35	191	5	81	1986
524	68	17	61	1	103	62	35	197	31	83	1987
603	40	16	77	1	60	35	35	284	20	102	1988
542	71	16	39	2	117	42	41	368	7	64	1989
380	54	18	121	2	65	30	37	330	12	102	1990
250	59	18	112	2	40	30	42	400	3	81	1991
600	65	18	82	1	100	40	43	444	12	100	1992

Table 10. Continued

YEAR	Philippines	Saudi Arabia	Singapore	Sri Lanka	Syria	Turkey	U A Emirates	Vietnam	Yemen	Others
1961	188	85	336	469	26	11	10	19	23	42
1962	-	142	350	411	35	1	11	212	30	41
1963	256	120	440	403	21	-	13	450	34	42
1964	299	99	270	658	36	-	14	420	35	43
1965	560	141	291	642	29	1	16	330	30	40
1966	108	142	292	488	32	9	22	894	32	43
1967	291	125	260	376	36	-	14	1250	33	44
1968	-	153	288	338	44	-	37	1230	32	40
1969	-	151	237	264	30	13	17	1030	64	43
1970	-	202	294	545	40	14	16	1260	51	48
1971	370	200	306	339	50	2	42	690	27	56
1972	456	125	377	266	56	2	58	880	27	112
1973	336	110	239	344	51	63	33	850	29	51
1974	166	137	164	297	88	11	78	910	38	45
1975	135	91	147	465	50	77	57	350	39	43
1976	55	261	226	378	61	20	54	148	57	56
1977	31	162	226	539	40	30	79	197	40	71
1978	-	404	194	187	115	37	99	70	60	66
1979	-	341	214	212	128	23	275	250	92	132
1980	-	356	188	168	39	6	234	201	47	100
1981	-	427	183	155	72	26	190	12	81	113
1982	-	471	193	112	57	21	102	197	81	90
1983	-	491	197	177	243	10	98	42	70	101
1984	190	490	210	20	110	85	113	322	89	102
1985	538	428	186	177	107	85	152	336	129	86
1986	2	374	241	211	74	86	226	483	127	143
1987	-	375	215	80	114	159	250	323	100	192
1988	119	363	213	195	68	91	190	200	130	97
1989	195	250	210	313	95	221	360	55	145	128
1990	593	280	221	132	109	191	365	2	150	178
1991	*	254	211	133	109	133	282	6	124	294
1992	1	525	234	237	140	265	370	2	150	256

SOUTH AMERICA	Brazil	Chile	Peru	Others ^c	N&C America	Canada	Cuba	Dominican Rep	Jamaica	Trinidad & Tobago	Others ^c	YEAR
74	-	9	9	56	335	39	187	9	19	27	55	1961
23	*	6	1	16	354	39	195	6	19	32	63	1962
16	-	12	1	2	374	47	190	32	23	28	54	1963
73	-	22	48	3	470	46	286	22	28	30	60	1964
112	-	11	92	10	543	67	282	22	34	31	107	1965
58	-	40	12	6	354	51	146	-	27	32	98	1966
74	-	10	59	4	346	56	157	-	33	30	70	1967
71	-	14	48	9	373	58	177	13	24	27	74	1968
93	*	50	37	6	357	58	186	-	27	30	57	1969
42	-	37	-	5	425	63	199	1	33	28	102	1970
26	2	20	-	5	590	82	280	-	38	34	157	1971
30	9	16	-	5	479	80	256	9	37	30	68	1972
20	11	7	-	2	464	78	201	30	32	24	100	1973
75	1	72	-	2	618	68	276	70	40	45	119	1974
169	63	22	78	6	469	73	200	50	49	30	67	1975
110	17	9	82	2	459	79	179	56	46	32	68	1976
61	*	32	*	28	448	78	144	58	29	39	99	1977
96	29	11	26	30	418	82	171	18	46	27	74	1978
981	711	9	202	59	449	90	161	1	28	36	134	1979
503	239	26	211	27	656	92	230	33	53	32	216	1980
273	143	20	91	20	627	99	199	65	43	38	184	1981
227	137	22	60	9	511	108	201	-	39	39	124	1982
484	315	31	64	74	553	107	207	-	51	53	136	1983
126	*	8	60	58	678	113	184	-	52	45	284	1984
402	340	3	23	37	835	115	242	13	55	36	374	1985
1633	1398	37	193	5	688	130	189	91	56	20	202	1986
356	102	21	211	22	733	135	221	47	47	53	229	1987
256	108	25	17	105	717	142	201	7	57	34	276	1988
451	171	6	208	65	1008	147	242	23	42	52	502	1989
683	414	34	206	30	1070	160	235	41	61	33	539	1990
1283	960	79	223	21	1120	169	262	25	84	22	558	1991
1023	480	22	418	103	1350	186	300	18	84	27	735	1992

Table 10. Continued

YEAR	AFRICA	Côte d'Ivoire	Gambia	Ghana	Guinea	Liberia	Madagascar	Mali	Mauritania	Mauritius
1961	531	34	8	31	21	23	-	*	9	67
1962	591	43	11	47	25	27	-	-	10	68
1963	599	34	8	17	42	36	2	-	10	70
1964	692	58	9	25	40	44	5	-	10	68
1965	818	78	7	30	37	33	78	-	10	67
1966	815	83	8	48	40	46	13	-	12	61
1967	685	24	9	40	19	34	-	*	11	67
1968	696	47	10	31	25	46	-	-	13	62
1969	722	56	13	28	10	28	43	20	19	65
1970	808	79	14	53	30	49	20	15	11	59
1971	970	97	8	35	15	54	61	15	17	54
1972	900	77	10	24	17	42	49	31	19	72
1973	1135	147	13	54	30	46	69	45	29	58
1974	1084	70	9	39	30	35	99	71	8	88
1975	734	2	14	*	36	31	57	20	8	67
1976	1005	2	24	4	20	38	63	*	28	79
1977	1748	113	30	9	36	56	78	*	43	66
1978	2017	126	34	45	50	61	126	22	52	79
1979	2427	198	25	36	71	74	181	20	21	72
1980	2482	253	26	66	128	87	73	53	51	88
1981	2781	335	28	32	78	96	193	26	48	80
1982	3091	357	28	16	47	98	355	71	41	78
1983	2948	383	30	33	77	78	232	65	65	72
1984	2810	321	50	50	80	101	139	100	70	87
1985	3093	342	65	60	70	85	150	114	105	83
1986	3162	361	72	54	80	95	162	129	54	65
1987	3345	479	50	73	90	89	125	50	63	84
1988	2695	266	99	69	85	79	37	70	82	72
1989	3440	323	55	80	195	130	91	51	60	91
1990	3045	359	75	80	112	65	59	20	45	84
1991	3459	318	65	110	182	165	23	128	67	71
1992	3760	380	65	139	247	128	60	40	85	64

Mozam- bique	Nige- ria	Reu- nion	Sene- gal	Sierra Leone	Soma- lia	South Africa	Tanza- nia	Zaire	Others ^c	YEAR
*	1	44	110	4	16	52	13	15	83	1961
-	2	37	118	15	17	44	16	32	79	1962
-	1	44	101	21	23	60	12	40	79	1963
-	1	43	185	1	37	59	9	17	82	1964
-	1	40	179	21	29	67	16	24	103	1965
-	1	44	159	41	22	75	23	33	106	1966
-	2	50	153	31	17	72	20	23	113	1967
-	*	43	185	21	15	79	15	18	87	1968
-	1	47	146	13	16	81	8	2	128	1969
*	2	57	119	50	23	75	7	26	119	1970
*	*	43	188	27	36	90	10	38	182	1971
-	6	59	170	5	27	83	6	36	167	1972
-	1	44	192	37	30	100	8	35	197	1973
-	5	50	207	42	17	71	71	13	160	1974
3	7	44	102	-	37	88	64	10	145	1975
53	45	57	245	1	20	89	9	55	173	1976
75	413	43	246	11	63	111	52	40	266	1977
84	564	54	238	19	14	104	47	32	268	1978
85	568	61	352	92	13	137	25	32	363	1979
85	450	51	301	62	61	126	104	26	392	1980
68	657	47	336	53	75	149	46	25	409	1981
87	539	47	359	85	84	163	127	33	477	1982
85	544	60	339	31	61	176	64	33	521	1983
73	365	46	371	28	94	204	64	37	530	1984
109	356	73	342	92	61	194	53	40	697	1985
62	320	74	378	90	97	130	142	80	717	1986
84	400	87	307	98	82	282	84	80	740	1987
65	200	56	333	97	47	253	50	70	664	1988
80	300	95	371	100	70	303	21	87	938	1989
70	220	16	392	124	70	306	34	85	831	1990
70	210	63	409	141	90	375	65	61	846	1991
83	270	68	356	107	91	362	110	40	1066	1992

Table 10. Continued

YEAR	EUROPE	Austria	Belgium-Luxembourg	Czechoslovakia	France	Germany	Hungary	Italy	Netherlands	Poland
1961	775	38	54	85	62	162	21	*	60	60
1962	842	34	56	82	69	188	17	-	71	50
1963	842	35	41	88	52	175	19	3	55	99
1964	853	33	49	89	58	186	11	4	70	55
1965	879	39	30	73	86	209	21	1	50	67
1966	1036	39	46	92	115	250	41	9	78	67
1967	829	37	39	60	103	175	25	5	60	65
1968	956	35	45	68	135	193	18	11	70	59
1969	944	35	50	77	114	185	19	1	66	62
1970	876	42	49	77	91	199	21	4	69	60
1971	1008	55	60	80	101	225	18	6	71	74
1972	988	83	58	70	127	199	10	25	71	70
1973	1066	40	84	70	154	216	14	18	96	54
1974	1041	28	70	74	154	206	12	5	87	63
1975	1058	31	64	71	151	183	15	7	113	74
1976	1536	44	130	84	194	222	13	58	250	119
1977	1560	43	117	84	267	211	27	124	147	57
1978	1756	43	124	69	282	237	30	307	145	79
1979	1608	46	135	86	249	204	22	179	148	84
1980	1595	51	176	73	253	206	24	120	193	93
1981	1805	42	188	81	244	226	20	195	250	115
1982	1955	46	245	66	268	216	14	290	159	81
1983	1837	40	268	50	340	214	62	173	166	57
1984	2042	48	285	73	336	241	64	170	179	104
1985	2171	47	312	74	283	238	19	352	221	65
1986	2052	55	216	61	305	244	18	180	191	62
1987	1937	71	214	58	277	231	18	159	215	75
1988	1827	57	208	75	297	232	18	95	192	64
1989	2065	56	281	90	298	233	22	101	169	58
1990	1976	68	207	80	266	277	20	51	232	37
1991	2120	67	201	50	293	504	26	50	218	56
1992	2015	67	194	49	306	275	41	33	238	62

^a Including Taiwan Province.

^b - = magnitude zero; * = less than 500 t.

^c Includes countries reporting less than 25,000 t of imports from 1961 to 1990.

Portugal	Romania	Spain	Switzerland	United Kingdom	Yugoslavia	Others ^c	Former USSR	OCEANIA	Papua New Guinea	Others ^c	YEAR
15	16	-	29	104	14	56	20	47	22	25	1961
2	23	-	32	120	43	54	338	46	22	24	1962
24	43	-	30	113	-	65	194	52	23	28	1963
5	29	-	23	109	37	96	363	58	24	34	1964
26	37	-	25	116	26	72	238	69	28	41	1965
35	30	-	32	112	27	64	275	90	34	56	1966
20	32	-	28	108	10	63	397	75	33	43	1967
35	30	6	23	124	28	78	260	78	39	39	1968
35	32	-	28	115	70	56	327	76	38	38	1969
11	36	-	28	126	12	51	323	85	45	40	1970
6	61	-	25	148	26	53	332	92	47	45	1971
26	29	-	23	129	8	59	280	99	49	51	1972
7	70	*	26	142	5	69	154	118	62	57	1973
32	40	-	27	129	46	70	194	96	42	54	1974
68	62	-	21	138	5	57	279	110	56	55	1975
94	58	-	26	167	10	66	324	105	55	50	1976
71	38	-	25	242	32	75	460	130	73	57	1977
44	62	*	26	231	8	69	414	134	78	56	1978
102	67	-	26	192	5	64	631	150	84	66	1979
51	57	2	31	156	30	81	694	162	97	65	1980
97	56	*	29	160	35	69	1283	148	87	61	1981
121	62	58	35	173	31	91	859	153	88	64	1982
51	64	43	28	182	1	101	323	162	90	72	1983
102	44	84	33	194	-	85	150	185	105	80	1984
108	54	26	32	206	20	113	371	194	109	85	1985
60	36	27	129	315	22	132	493	255	169	86	1986
57	49	84	65	223	5	136	598	228	132	96	1987
111	21	53	31	247	4	121	498	221	117	104	1988
73	-	202	61	261	24	138	640	233	126	107	1989
77	43	153	44	258	31	133	320	239	120	119	1990
59	50	82	50	264	20	132	410	304	180	124	1991
95	56	68	69	283	20	162	850	293	150	143	1992

Source: FAO AGROSTAT 1994. FAO, Rome.

Table 11. Imports of milled rice (million US\$ cif^a), by country and geographical region, 1961-92.

YEAR	WORLD	ASIA	Bah- rain	Bang- ladesh	Cambo- dia	China ^b	Hong- kong	India	Indo- nesia	Iran
1961	787.7	551.3	0.8	50.0	- ^c	14.6	45.1	89.0	110.7	1.8
1962	916.3	597.1	1.0	26.5	-	2.3	56.7	99.0	125.8	3.0
1963	969.0	677.6	1.0	44.4	-	13.1	56.0	87.2	111.2	0.9
1964	1096.7	737.5	1.1	30.6	-	12.5	52.8	120.6	125.6	0.4
1965	1134.6	761.5	3.1	9.5	-	16.0	48.0	163.6	23.2	5.4
1966	1194.2	795.3	3.3	42.0	-	6.9	52.7	155.2	39.0	4.0
1967	1336.6	928.0	1.8	54.0	-	4.8	81.9	147.3	52.0	1.7
1968	1370.4	920.1	4.5	39.0	-	6.0	64.6	135.6	96.4	3.7
1969	1309.7	855.0	1.9	30.0	-	1.8	65.0	143.4	114.3	0.3
1970	1322.1	916.4	3.1	61.0	0.1	1.0	56.6	80.2	153.5	1.1
1971	1224.5	779.7	5.2	38.5	1.8	* ^c	51.5	83.5	120.0	11.7
1972	1273.1	836.4	4.8	72.0	11.3	0.3	65.6	53.5	155.0	20.6
1973	2143.9	1352.7	10.4	29.7	25.5	*	150.3	75.6	381.6	3.1
1974	3679.1	2224.6	17.5	26.5	70.0	68.8	173.9	38.3	374.2	131.9
1975	3044.5	1861.0	2.9	49.4	35.0	16.3	134.0	78.8	326.5	155.6
1976	2928.7	1769.0	12.5	107.2	-	36.9	112.2	113.0	450.1	117.4
1977	3322.5	1785.5	30.0	31.6	-	3.3	105.8	47.1	678.0	212.9
1978	3963.4	1957.4	17.6	73.1	-	40.5	128.4	1.5	591.5	124.8
1979	4645.2	2231.3	16.9	8.2	60.0	36.0	127.8	0.9	596.3	206.4
1980	5492.9	2775.9	26.9	122.6	105.0	40.4	157.7	1.2	690.4	209.0
1981	6501.8	3185.8	13.2	18.5	46.0	90.6	179.9	18.7	206.4	332.4
1982	4614.0	1855.3	12.2	56.2	44.0	52.7	149.4	5.5	103.1	181.7
1983	4387.3	2036.2	14.2	70.3	20.0	14.6	138.6	54.2	384.0	266.1
1984	4071.9	1875.0	16.9	38.2	30.0	17.7	126.4	116.0	132.1	231.6
1985	3850.2	1640.3	13.3	148.9	16.0	36.8	114.6	14.3	8.8	171.4
1986	3729.6	1312.8	12.4	11.0	22.0	51.2	111.4	6.2	5.9	125.5
1987	3707.7	1433.6	21.4	42.5	20.0	83.1	106.4	1.7	12.3	228.9
1988	4244.1	1767.9	19.7	107.7	31.0	76.2	139.2	159.1	8.7	81.2
1989	5539.6	2475.5	19.6	10.1	12.3	305.1	160.1	170.5	75.9	439.1
1990	4746.3	1726.4	16.0	67.9	8.0	12.8	149.6	21.9	14.1	225.0
1991	5127.0	1504.9	19.5	2.7	6.3	41.0	159.5	4.9	53.1	236.0
1992	6071.2	2290.1	19.8	7.0	24.0	40.3	169.3	15.0	171.8	375.0

Iraq	Is- rael	Japan	Jordan	Korea Rep	Kuwait	Lao PDR	Leba- non	Malay- sia	Nepal	Oman	YEAR
11.6	1.9	17.4	3.0	-	3.2	8.5	2.3	52.2	-	0.5	1961
12.3	2.2	26.3	2.7	-	3.2	11.5	3.1	54.3	-	0.6	1962
2.5	2.3	30.8	3.4	17.5	3.2	14.3	2.7	65.9	-	0.7	1963
16.5	2.6	71.8	3.6	-	4.0	12.0	2.8	62.9	-	0.8	1964
0.2	2.9	175.1	4.1	-	8.5	8.6	3.0	47.9	-	0.8	1965
*	6.0	131.3	4.1	3.1	9.3	8.8	3.1	45.0	-	0.9	1966
2.0	3.7	82.2	3.8	24.9	4.0	12.2	4.3	66.0	-	1.1	1967
0.1	5.6	50.2	3.2	43.3	10.8	7.0	3.1	57.3	-	1.2	1968
*	5.4	9.2	3.5	120.5	6.8	4.4	4.6	43.9	-	1.3	1969
0.3	5.3	3.3	2.2	145.4	8.4	3.9	3.3	42.0	-	1.9	1970
15.6	5.8	1.8	3.6	150.2	9.7	8.3	3.1	24.0	-	3.6	1971
7.0	6.2	0.6	3.6	103.0	11.1	6.9	3.7	26.9	-	2.3	1972
6.6	10.4	5.3	4.2	84.0	10.6	9.9	6.0	85.6	-	5.6	1973
105.0	17.8	33.0	13.3	153.1	27.6	12.7	12.0	148.7	-	10.6	1974
81.1	16.9	16.6	5.9	195.1	45.4	6.9	8.0	62.8	-	10.6	1975
84.5	12.5	7.6	13.7	47.0	25.5	27.0	6.0	54.2	-	8.2	1976
105.0	12.3	8.8	8.3	14.2	26.6	28.0	7.6	71.7	-	9.4	1977
145.0	12.0	38.5	11.7	0.6	36.0	46.0	7.8	138.9	-	17.1	1978
154.0	19.1	4.1	16.4	69.4	55.3	46.0	8.4	85.0	-	22.9	1979
216.7	21.8	4.5	20.4	328.4	48.0	43.0	11.0	59.5	-	22.1	1980
192.0	18.8	34.7	16.7	1085.5	41.6	24.0	11.0	129.4	8.5	25.4	1981
167.0	26.0	29.5	23.8	131.9	47.7	8.0	12.0	141.4	8.9	36.2	1982
185.0	19.9	3.9	13.9	53.5	36.2	7.8	8.4	101.7	10.4	33.4	1983
176.0	19.1	75.3	21.5	0.2	51.1	8.3	7.5	117.7	5.6	38.5	1984
175.0	20.1	4.6	18.5	0.1	60.0	1.8	11.0	103.5	1.5	41.8	1985
182.0	18.0	4.0	27.9	0.1	51.7	1.7	11.1	45.8	0.7	32.7	1986
147.0	18.1	3.6	21.4	0.3	68.9	12.5	11.7	41.4	7.4	35.5	1987
253.0	16.5	4.3	28.5	0.4	41.2	8.1	13.0	81.0	4.4	54.1	1988
196.0	38.4	5.1	14.0	0.8	83.9	10.5	17.2	126.6	0.9	34.3	1989
139.0	27.8	4.8	42.0	0.5	50.0	7.2	13.5	99.7	1.5	47.4	1990
88.0	25.4	4.9	39.6	0.6	32.0	7.5	18.0	127.5	0.5	41.3	1991
220.0	28.0	5.6	30.8	0.5	75.0	10.0	16.5	135.7	2.0	53.5	1992

Table 11. Continued

YEAR	Philippines	Saudi Arabia	Singapore	Sri Lanka	Syria	Turkey	U A Emirates	Vietnam	Yemen	Others ^d
1961	22.4	12.8	40.0	45.6	2.4	1.7	2.1	3.5	3.0	5.3
1962	-	19.3	47.3	41.0	4.3	0.2	2.3	43.1	4.3	4.8
1963	38.7	19.3	55.8	40.4	2.9	-	2.3	51.3	5.1	5.0
1964	34.6	14.2	34.5	68.5	5.5	-	2.4	47.3	4.9	5.3
1965	58.5	22.6	36.2	65.0	4.0	0.1	2.5	42.7	4.9	5.0
1966	13.8	23.6	39.7	54.2	4.5	1.6	3.6	129.3	4.7	5.6
1967	42.3	26.7	45.9	45.8	5.5	-	2.6	200.0	5.3	6.2
1968	-	35.5	54.0	52.4	6.9	-	8.1	220.0	5.7	6.0
1969	-	32.8	37.2	37.0	4.7	2.6	3.8	165.0	9.5	6.0
1970	-	37.0	34.4	60.5	5.2	2.3	3.3	186.0	7.8	7.3
1971	32.9	28.5	30.9	37.8	6.2	0.4	6.4	87.0	3.5	8.5
1972	38.7	26.3	45.7	24.1	7.6	0.5	7.8	115.0	5.3	11.2
1973	49.8	45.5	67.2	42.3	16.6	22.6	9.6	175.0	7.4	12.4
1974	43.6	85.7	81.5	108.1	45.1	4.2	43.3	340.0	19.8	18.4
1975	39.7	43.4	51.6	151.9	24.6	37.0	32.1	200.0	18.0	15.1
1976	12.4	118.2	53.5	75.7	22.8	4.1	19.8	191.5	19.5	16.3
1977	5.2	70.2	53.9	108.2	13.5	7.2	28.2	69.0	12.6	17.0
1978	-	234.0	66.8	44.1	40.2	13.1	49.5	28.0	26.7	24.0
1979	-	204.5	74.5	56.6	43.4	7.5	124.1	97.0	38.9	51.8
1980	-	229.8	79.0	45.8	16.8	2.5	122.8	84.5	24.1	42.0
1981	-	305.0	91.3	46.5	32.6	10.8	115.8	3.0	41.4	46.2
1982	-	290.3	74.4	28.3	27.9	10.0	61.9	60.0	33.2	32.2
1983	-	271.8	68.0	39.5	92.7	4.8	47.3	15.0	25.5	35.5
1984	44.4	264.1	66.7	6.0	32.7	29.4	49.2	81.0	37.2	34.6
1985	123.5	203.6	49.7	34.2	26.7	27.2	64.7	81.0	42.4	25.3
1986	0.4	182.3	60.8	35.1	17.9	21.0	85.2	106.0	41.4	41.2
1987	-	178.0	55.5	16.5	25.6	34.1	90.0	74.0	24.2	51.7
1988	47.6	182.1	74.2	52.0	21.8	26.6	105.0	50.0	39.1	42.3
1989	54.5	147.4	78.3	86.5	31.0	82.7	159.4	15.4	47.5	52.6
1990	127.7	152.5	81.7	35.4	36.3	66.6	167.0	0.5	42.0	68.1
1991	0.1	147.1	80.3	38.1	42.9	41.5	111.1	1.7	42.4	91.5
1992	0.3	320.0	92.2	51.3	56.0	92.7	126.0	0.5	46.0	105.2

SOUTH AMERICA	Brazil	Chile	Peru	Others ^d	N&C AMERICA	Canada	Cuba	Dominican Rep	Jamaica	Trinidad & Tobago	Others ^d	YEAR
10.3	-	1.6	1.1	7.6	50.4	6.1	27.6	0.9	3.7	4.1	8.1	1961
4.0	*	1.1	0.2	2.6	55.2	7.1	28.3	0.8	3.9	5.1	10.0	1962
2.8	-	2.1	0.2	0.5	59.5	8.6	27.9	4.5	4.8	4.5	9.1	1963
12.1	-	4.2	7.3	0.6	74.8	6.8	42.8	3.5	5.6	5.0	11.1	1964
17.1	-	1.8	13.5	1.8	80.3	8.6	40.2	3.8	7.0	5.3	15.3	1965
9.9	-	6.7	1.8	1.4	57.9	7.7	22.1	-	5.8	5.4	16.8	1966
13.6	-	2.1	10.5	1.0	61.7	9.7	25.9	-	7.8	5.1	13.1	1967
15.4	-	3.2	9.9	2.3	71.8	10.8	34.7	2.8	5.7	4.3	13.6	1968
17.4	*	8.7	7.1	1.5	68.6	11.1	34.9	-	7.0	4.9	10.7	1969
8.9	-	7.6	-	1.2	71.7	11.6	31.8	0.1	8.3	4.4	15.5	1970
4.7	0.1	3.2	-	1.4	89.1	13.4	35.5	-	9.8	5.5	25.0	1971
5.1	1.1	2.7	-	1.2	79.3	13.5	32.9	2.2	11.3	5.0	14.4	1972
3.3	1.6	1.3	-	0.5	129.5	22.2	43.9	14.6	12.0	6.4	30.5	1973
21.9	0.1	21.2	-	0.7	318.4	31.2	152.9	40.5	24.5	16.9	52.3	1974
67.6	23.9	9.7	31.1	2.9	217.5	29.2	95.9	19.2	28.2	13.7	31.3	1975
29.4	5.2	3.2	20.2	0.7	184.5	26.8	73.7	24.0	20.8	12.7	26.5	1976
17.2	0.2	9.5	0.1	7.4	151.8	26.3	46.9	17.8	10.7	13.6	36.4	1977
31.0	7.8	4.2	10.3	8.7	188.3	32.6	84.3	7.0	18.9	11.5	33.9	1978
331.7	245.0	4.2	64.8	17.6	205.8	36.3	88.1	0.2	11.2	15.8	54.2	1979
220.2	99.2	14.5	95.9	10.7	303.1	43.0	100.0	15.0	25.6	15.5	104.1	1980
149.6	66.6	11.2	61.9	9.8	318.1	49.5	95.2	31.1	24.2	21.7	96.4	1981
82.1	47.0	9.5	22.1	3.5	254.9	47.5	104.4	-	16.8	26.3	59.9	1982
184.5	113.6	10.7	33.1	27.2	236.3	47.6	73.0	-	19.7	26.6	69.5	1983
50.6	0.1	3.4	26.8	20.3	272.7	51.1	71.2	-	18.3	30.9	101.2	1984
99.4	83.5	1.0	2.9	12.0	301.4	43.1	100.6	3.9	18.4	23.3	112.1	1985
378.2	327.3	8.3	39.3	3.3	232.9	41.5	53.8	20.0	17.6	10.5	89.5	1986
79.6	28.2	4.6	40.8	6.0	223.4	37.5	49.4	9.6	12.6	18.4	95.9	1987
86.9	36.0	8.7	6.6	35.7	277.1	57.0	48.1	1.4	23.9	12.9	133.8	1988
166.5	61.4	2.2	80.1	22.8	387.4	55.0	65.4	8.1	13.7	16.1	229.2	1989
263.8	144.0	11.0	94.1	14.7	396.1	62.5	54.0	13.3	17.5	11.2	237.6	1990
499.4	372.3	29.5	87.2	10.4	443.5	68.1	64.5	9.3	33.8	11.9	255.8	1991
334.0	158.4	9.1	128.6	37.9	538.8	74.9	75.0	6.5	32.0	11.6	338.9	1992

Table 11. Continued

YEAR	AFRICA	Côte d'Ivoire	Gambia	Ghana	Guinea	Libria	Madagascar	Mali	Mauritania	Mauritius
1961	66.8	4.1	0.9	7.0	2.2	3.1	-	*	0.9	7.7
1962	86.1	5.7	1.3	10.5	6.3	3.8	-	-	1.1	7.8
1963	80.4	4.2	1.0	4.2	6.2	6.0	0.2	-	1.3	8.0
1964	92.4	7.9	1.1	5.3	6.0	6.0	0.7	-	1.4	8.2
1965	109.1	9.0	1.0	5.1	5.6	6.3	9.7	-	1.4	8.3
1966	116.8	12.6	0.8	9.0	6.0	7.5	1.7	-	1.6	7.9
1967	107.8	3.6	0.9	7.2	2.6	6.6	-	*	1.6	9.1
1968	121.1	7.6	1.3	6.7	4.2	8.7	-	-	2.0	10.0
1969	115.0	7.3	2.0	5.9	2.0	5.2	5.9	3.5	2.5	9.9
1970	114.0	7.3	1.7	10.0	4.5	9.8	2.4	1.4	1.1	6.9
1971	123.1	8.0	0.7	6.0	3.0	10.0	6.6	2.0	1.8	5.7
1972	118.9	8.7	1.1	2.8	3.5	7.8	4.8	4.3	1.7	8.0
1973	276.0	38.8	1.3	14.9	6.6	12.3	12.9	11.0	4.5	13.2
1974	478.1	34.3	2.8	18.2	12.0	15.8	38.5	33.6	0.4	39.7
1975	294.4	1.0	5.1	0.2	15.0	13.6	22.8	13.2	2.6	22.2
1976	286.5	1.6	5.8	1.8	4.5	12.9	18.3	*	3.3	19.6
1977	605.4	35.1	5.0	3.6	9.7	19.8	17.9	0.1	8.4	16.1
1978	783.8	41.8	6.1	20.1	18.5	22.9	40.0	8.6	12.6	26.7
1979	825.8	63.9	5.0	14.0	21.1	26.0	53.3	8.1	5.8	23.2
1980	1030.0	114.5	6.2	16.7	54.0	34.4	24.4	29.9	15.6	30.9
1981	1273.3	128.7	7.6	18.1	33.0	45.0	68.0	14.0	15.9	30.8
1982	1127.6	104.9	6.6	8.4	13.8	44.1	99.0	35.5	16.9	27.4
1983	953.6	94.3	6.5	8.0	21.0	35.6	57.7	16.7	19.7	18.1
1984	873.5	78.6	10.0	14.0	21.0	44.0	31.0	30.0	18.0	19.7
1985	784.5	59.6	12.0	15.5	17.0	34.7	31.2	27.8	26.0	18.2
1986	746.6	80.8	11.8	14.0	17.0	33.4	36.7	28.0	11.0	12.0
1987	781.4	107.2	7.0	20.5	19.0	27.0	28.9	11.0	11.2	15.7
1988	804.5	68.2	15.9	23.0	26.0	29.0	11.5	22.0	19.6	22.5
1989	1085.2	104.1	10.6	24.0	62.0	47.0	24.4	18.0	25.0	27.2
1990	934.2	111.0	9.1	25.0	33.3	24.0	27.9	6.4	10.3	26.9
1991	1096.9	112.0	17.4	35.0	39.5	63.0	7.6	43.0	13.5	20.3
1992	1211.7	138.0	18.0	40.0	61.0	51.0	24.0	14.0	23.0	17.8

Mozam- bique	Nige- ria	Reu- nion	Sene- gal	Sierra Leone	Soma- lia	South Africa	Tanza- nia	Zaire	Others ^d	YEAR
*	0.2	4.9	10.9	0.6	2.0	6.7	2.0	2.0	11.7	1961
-	0.4	5.2	12.0	1.8	2.7	6.6	2.5	5.4	13.1	1962
-	0.3	5.3	11.1	2.7	3.1	8.9	1.9	4.2	11.8	1963
-	0.3	5.5	19.9	0.1	5.4	8.8	1.3	2.0	12.4	1964
-	0.3	5.3	18.1	2.9	4.2	10.4	2.3	4.0	15.4	1965
-	0.4	6.0	17.6	5.4	3.2	11.7	3.8	5.0	16.7	1966
-	0.4	7.6	22.3	4.2	2.9	13.4	3.5	2.4	19.7	1967
-	0.1	7.1	28.6	3.1	2.8	15.6	2.8	4.2	16.4	1968
-	0.1	7.6	17.8	1.8	3.7	15.2	1.4	0.5	22.9	1969
*	0.2	7.9	12.0	6.7	3.7	13.7	1.1	4.2	19.4	1970
*	0.1	5.8	16.9	3.2	5.2	16.3	1.4	5.2	25.2	1971
-	1.7	9.5	16.6	0.6	3.5	14.7	0.9	4.8	24.0	1972
-	0.4	16.7	42.9	6.4	6.4	28.4	1.5	10.1	47.5	1973
-	2.4	21.7	75.0	17.9	8.5	42.5	37.5	5.1	72.4	1974
1.0	3.9	17.6	28.3	-	10.2	35.5	32.3	3.3	66.7	1975
16.0	32.1	13.9	44.7	0.1	6.9	31.7	3.0	18.3	52.2	1976
20.0	240.3	10.9	45.8	4.3	19.9	35.5	16.1	15.0	81.8	1977
25.0	306.6	18.7	56.0	8.0	7.0	39.1	17.2	5.4	103.5	1978
25.0	253.6	20.3	69.6	36.0	4.8	48.8	8.7	6.5	132.0	1979
26.0	245.0	20.4	85.4	15.7	24.0	58.0	48.1	6.5	174.4	1980
22.0	407.5	22.1	99.9	18.5	32.6	76.1	23.5	7.0	203.1	1981
25.0	290.1	14.2	81.8	29.7	25.5	66.2	49.2	7.2	182.2	1982
23.1	237.8	13.7	79.6	10.6	18.0	66.1	32.2	7.2	187.7	1983
18.9	165.0	10.3	78.7	9.2	27.3	78.3	31.0	8.0	180.6	1984
26.1	94.6	17.3	63.7	26.4	16.7	59.1	18.0	9.0	211.7	1985
17.8	80.0	15.2	60.5	29.8	24.0	29.5	34.9	16.4	193.9	1986
24.6	92.0	18.0	50.0	29.0	21.3	61.5	21.7	18.1	197.6	1987
23.5	55.0	17.1	81.8	34.0	15.2	78.1	13.4	21.0	227.9	1988
33.7	80.0	16.5	107.1	36.0	24.0	92.5	8.3	38.6	306.3	1989
23.0	60.0	6.2	92.5	43.5	24.5	87.0	12.0	34.0	277.7	1990
25.0	60.0	22.7	103.0	42.0	31.0	117.4	21.9	25.0	297.7	1991
30.0	78.0	24.3	92.3	35.0	34.0	105.7	38.5	17.0	370.1	1992

Table 11. Continued

YEAR	EUROPE	Austria	Belgium-Luxembourg	Czechoslovakia	France	Germany	Hungary	Italy	Netherlands	Poland
1961	99.3	4.7	5.1	12.6	9.2	19.0	3.3	*	7.3	7.5
1962	121.7	5.2	6.6	11.4	12.5	25.3	2.7	-	10.0	6.7
1963	117.0	5.3	4.5	12.6	8.7	23.6	2.7	0.2	7.9	10.7
1964	123.2	5.4	5.8	12.5	9.6	25.0	1.7	0.5	10.2	7.0
1965	122.5	5.7	3.6	10.2	12.8	27.5	3.2	0.1	6.3	8.7
1966	155.5	6.0	5.5	13.1	17.9	35.7	6.2	1.1	11.7	9.1
1967	145.3	6.5	6.2	10.3	20.9	29.2	4.2	0.6	10.6	10.5
1968	180.0	7.0	7.5	12.8	26.2	35.3	3.6	1.5	12.9	10.7
1969	178.9	6.2	7.2	15.3	24.0	34.5	3.5	0.1	11.6	10.4
1970	144.7	6.1	6.4	10.8	19.6	33.1	3.5	0.4	10.6	7.7
1971	165.3	6.2	9.8	12.8	21.6	40.2	2.5	0.5	12.1	8.3
1972	175.5	9.6	9.8	11.6	32.5	39.7	1.8	2.8	11.7	8.6
1973	322.6	12.4	19.3	20.0	54.4	66.2	4.2	3.8	25.2	17.0
1974	530.2	14.7	31.6	44.3	75.1	103.1	6.9	2.1	39.8	36.0
1975	460.7	13.0	22.2	36.1	67.1	80.4	8.9	2.2	42.0	35.3
1976	521.5	13.9	33.7	36.3	83.7	83.0	5.5	12.0	72.9	31.8
1977	587.2	13.9	37.5	23.2	120.1	92.5	11.4	36.0	47.4	15.6
1978	797.6	17.0	54.0	36.7	143.9	115.9	17.0	111.2	61.1	33.7
1979	774.0	18.4	63.2	38.5	137.4	108.0	11.3	65.0	68.8	30.8
1980	828.3	21.5	79.6	37.0	153.7	116.5	11.3	49.8	93.4	38.3
1981	956.4	20.6	95.3	39.6	140.7	128.7	10.2	80.8	121.9	51.1
1982	880.5	19.8	93.3	29.2	146.0	106.7	5.4	102.7	65.0	24.4
1983	799.9	15.6	106.0	18.3	169.9	100.3	21.0	49.1	68.5	15.2
1984	855.0	16.9	111.7	25.0	162.5	110.6	19.9	54.6	70.7	24.1
1985	871.5	15.9	112.4	22.5	146.5	104.4	7.1	93.8	77.7	18.7
1986	895.0	19.9	85.2	19.6	177.2	126.0	6.1	46.2	74.5	21.2
1987	930.3	21.5	73.4	14.3	190.5	133.3	6.2	46.2	74.1	18.3
1988	1055.0	23.1	95.7	20.1	211.0	150.2	6.5	44.4	91.4	16.0
1989	1113.4	22.7	109.8	27.2	208.9	148.1	8.9	46.7	78.9	15.5
1990	1216.1	31.1	106.4	29.4	215.8	192.2	8.8	23.5	112.3	10.2
1991	1325.4	27.8	108.4	14.6	230.5	347.3	11.1	31.0	104.0	17.0
1992	1311.5	29.2	111.6	17.4	257.6	207.5	18.0	21.7	127.6	16.5

^a cif = cost, insurance, and freight.

^b Including Taiwan Province.

^c - = magnitude zero; * = Less than US\$ 10,000.

^d Includes countries reporting less than 25,000 t of exports from 1961 to 1990.

Portugal	Romania	Spain	Switzerland	United Kingdom	Yugoslavia	Others ^c	Former USSR	OCEANIA	Papua New Guinea	Others ^c	YEAR
1.9	2.2	-	4.1	12.4	2.2	7.9	2.8	6.8	2.8	4.0	1961
0.5	3.3	-	5.3	17.2	6.0	9.3	45.3	6.8	2.8	4.0	1962
3.5	5.7	-	5.0	16.3	-	10.3	23.8	7.9	3.1	4.8	1963
0.8	4.1	-	4.2	15.6	5.9	14.9	47.9	9.0	3.2	5.8	1964
3.2	5.1	-	4.6	16.2	4.0	11.4	33.2	10.8	4.1	6.8	1965
5.2	4.2	-	6.3	17.5	5.1	10.8	44.6	14.2	5.1	9.1	1966
3.3	5.3	-	5.6	18.8	1.9	11.6	66.5	13.7	5.2	8.5	1967
5.8	5.5	0.8	5.1	23.8	6.0	15.6	47.2	14.9	6.7	8.2	1968
4.8	5.7	-	5.6	22.6	15.9	11.3	58.9	16.1	7.2	8.9	1969
1.7	6.1	-	5.8	21.2	2.3	9.3	50.0	16.5	8.1	8.4	1970
1.3	10.0	-	4.6	23.0	3.0	9.4	45.6	17.0	7.4	9.6	1971
3.7	5.3	-	4.9	22.4	0.8	10.4	39.6	18.4	7.5	11.0	1972
2.1	20.0	*	10.2	47.0	0.7	20.3	34.4	25.5	10.2	15.4	1973
15.0	18.5	-	16.5	64.7	21.7	40.3	69.5	36.4	12.2	24.2	1974
28.0	26.7	-	9.6	58.7	2.3	28.4	100.8	42.5	19.7	22.7	1975
31.1	21.3	-	9.7	57.5	2.2	27.0	101.9	35.9	16.8	19.1	1976
27.5	15.2	-	10.1	96.4	7.9	32.5	131.1	44.5	22.9	21.6	1977
16.3	29.2	0.1	13.6	108.3	2.5	37.1	153.7	51.8	25.6	26.2	1978
41.6	30.6	-	13.0	106.4	2.3	38.8	217.1	59.4	29.2	30.2	1979
19.7	28.5	0.8	17.7	98.5	12.7	49.4	265.0	70.4	36.0	34.5	1980
53.7	30.0	0.1	17.0	102.8	17.8	46.3	546.6	72.1	34.7	37.3	1981
48.7	29.4	18.5	18.4	106.2	12.9	53.8	344.6	69.0	33.7	35.4	1982
18.5	28.6	13.1	14.0	107.4	0.5	54.2	120.1	56.7	23.6	33.1	1983
34.6	20.0	26.9	15.7	114.5	-	47.4	80.5	64.6	27.1	37.5	1984
36.0	22.0	7.3	14.0	126.5	6.6	60.1	92.0	61.2	28.2	32.9	1985
21.8	15.0	7.7	34.2	161.6	7.0	71.9	103.6	60.4	29.6	30.8	1986
36.4	19.0	31.3	20.3	170.9	1.2	73.4	188.3	71.2	38.0	33.2	1987
62.3	9.2	23.4	17.5	201.2	1.4	81.6	171.9	80.9	37.4	43.6	1988
41.1	-	89.5	25.1	191.7	10.2	89.1	221.4	90.3	40.0	50.3	1989
50.0	17.2	77.2	27.4	208.7	16.4	89.7	118.7	91.0	36.0	55.0	1990
41.7	23.0	35.5	24.7	204.8	11.0	93.0	145.0	111.9	55.0	56.9	1991
67.0	24.0	32.2	30.3	232.5	12.0	106.6	275.0	110.0	48.0	62.0	1992

Source: FAO AGROSTAT 1994. FAO, Rome.

Table 12. Exports of milled rice (000 t), by country and geographical region, 1961-92.

YEAR	WORLD	ASIA	Cambo- dia	China ^a	Hong- kong	India	Indo- nesia	Japan	Korea DPR	Korea Rep	Malay- sia	Myan- mar	Nepal
1961	6759	4829	239	515	49	- ^b	-	* ^b	23	4	21	1591	289
1962	6718	4767	131	780	67	*	-	*	*	60	23	1718	289
1963	7971	5863	378	1199	23	3	-	*	-	5	10	1712	273
1964	8332	5983	491	1318	54	3	-	*	-	13	7	1413	338
1965	8349	5659	473	1192	29	3	*	*	44	16	25	1335	293
1966	8134	5496	166	1667	29	2	-	-	72	31	13	1128	293
1967	8078	4949	200	1826	7	4	-	*	125	-	3	540	293
1968	7541	3958	194	1588	11	3	-	*	60	-	2	352	293
1969	7902	4353	91	1545	14	16	-	361	96	*	1	549	260
1970	8397	4874	178	1695	13	27	-	597	89	-	*	641	247
1971	8664	5504	31	1508	15	16	-	912	103	-	2	811	228
1972	8578	5051	8	1526	98	15	-	183	100	-	14	524	130
1973	8502	5561	-	2639	56	18	-	540	102	27	11	146	293
1974	8298	5165	-	2530	20	41	-	309	286	*	*	214	59
1975	7718	4223	-	1974	4	18	*	11	328	*	-	292	100
1976	8911	5120	-	1441	2	38	-	*	93	1	-	623	107
1977	10794	6261	-	1183	4	19	-	19	270	39	-	661	88
1978	9580	5308	30	1673	4	144	*	82	412	42	-	348	32
1979	11640	7531	10	1462	3	333	-	603	234	*	-	590	45
1980	12940	7818	-	1377	6	483	10	689	227	*	*	653	7
1981	13075	7903	-	685	6	964	-	855	264	*	*	674	30
1982	12059	7400	-	776	6	537	-	319	210	*	10	701	35
1983	11499	7192	-	1113	9	230	-	329	120	*	-	858	3
1984	12769	8716	-	1370	10	198	-	107	150	170	10	622	18
1985	11536	7427	-	1046	14	315	259	*	200	*	2	582	59
1986	13351	8541	-	1123	13	253	134	*	200	*	1	597	20
1987	13018	8369	-	1262	13	389	33	-	260	*	2	303	2
1988	12238	8120	-	802	12	350	-	-	243	1	5	48	-
1989	15213	10031	-	384	37	422	106	-	90	1	*	168	*
1990	12482	7791	-	405	24	505	2	-	43	1	*	214	-
1991	13096	8414	-	818	47	678	1	-	11	2	1	174	-
1992	15772	10748	-	1034	52	560	43	-	5	*	*	205	-

Pakis- tan	Philip- pines	Singap- ore	Thail- and	UAE	Viet- nam	Others ^c	SOUTH AMERICA	Argen- tina	Brazil	Colom- bia	Guyana	YEAR
174	-	143	1574	-	182	26	314	11	151	-	92	1961
126	-	188	1271	-	90	25	218	39	44	4	81	1962
365	*	223	1418	-	229	25	156	15	-	3	73	1963
256	*	109	1896	-	60	25	145	7	12	*	79	1964
198	-	99	1895	-	3	55	435	43	237	*	95	1965
429	-	107	1508	-	13	39	593	57	289	-	110	1966
360	1	80	1482	-	3	22	316	47	32	-	111	1967
254	37	73	1068	-	2	22	397	57	158	-	96	1968
313	1	48	1023	-	20	16	335	75	70	16	74	1969
230	1	47	1064	-	19	27	376	99	95	5	61	1970
182	1	47	1591	20	6	32	419	92	149	*	73	1971
198	5	71	2113	25	3	37	171	23	2	2	70	1972
789	3	44	849	15	2	27	305	35	33	20	49	1973
597	-	15	1046	30	2	16	328	39	57	1	52	1974
478	-	19	951	15	22	11	425	66	3	72	83	1975
795	-	6	1964	15	6	30	519	87	76	78	94	1976
960	15	14	2932	35	5	18	929	167	409	78	67	1977
777	48	22	1607	49	1	38	594	99	180	*	106	1978
1015	165	16	2797	100	140	17	496	89	*	30	84	1979
1087	261	27	2797	141	33	21	477	93	1	41	81	1980
1244	82	7	3027	53	-	13	578	91	50	23	78	1981
951	*	5	3783	20	8	38	508	58	12	-	35	1982
905	40	3	3476	45	46	15	474	83	8	7	42	1983
1265	3	6	4616	64	83	24	468	133	1	37	48	1984
719	*	6	4062	95	59	9	560	112	4	33	29	1985
1316	-	16	4524	125	158	61	545	113	4	3	39	1986
1270	112	6	4443	140	120	14	476	43	4	-	69	1987
1210	-	3	5267	70	91	18	489	44	26	-	56	1988
854	16	4	6311	203	1420	16	590	97	10	34	44	1989
744	-	2	4017	200	1624	11	563	75	1	55	51	1990
1205	10	1	4333	117	1000	17	550	77	2	85	54	1991
1512	35	1	5151	190	1950	12	774	181	1	1	115	1992

Table 12. Continued

YEAR	Suri- nam	Uru- guay	Vene- zuela	Others ^c	N&C AMERICA	Costa Rica	USA	Others ^c	AFRICA	Egypt	Mada- gascar	Others ^c
1961	19	20	-	21	843	-	835	8	313	254	25	34
1962	21	25	-	5	1119	1	1050	68	229	144	50	35
1963	21	17	-	27	1201	*	1197	4	434	380	28	26
1964	14	22	-	11	1333	-	1329	4	577	527	28	22
1965	21	19	20	-	1558	-	1549	9	360	330	11	19
1966	20	45	50	22	1364	*	1352	11	386	347	20	20
1967	25	38	63	-	1865	1	1848	16	497	435	40	22
1968	32	21	33	-	1974	1	1898	75	662	570	69	22
1969	24	68	9	-	1944	5	1920	19	854	772	52	30
1970	16	37	60	2	1766	-	1741	25	745	655	68	22
1971	35	69	-	1	1490	-	1479	11	574	515	36	24
1972	27	44	-	2	2057	-	2037	21	509	456	26	27
1973	45	63	7	54	1655	*	1630	24	348	298	6	44
1974	48	58	67	8	1745	12	1726	8	169	136	7	26
1975	59	99	33	12	2144	4	2139	2	122	104	5	13
1976	58	108	2	16	2117	3	2107	7	267	211	4	51
1977	62	122	-	24	2329	37	2288	4	270	223	3	45
1978	86	100	-	22	2386	31	2279	77	159	145	1	13
1979	103	167	8	16	2368	52	2301	15	108	95	1	12
1980	101	142	17	1	3093	38	3054	1	121	98	2	22
1981	113	224	*	*	3179	45	3133	1	112	93	2	17
1982	131	246	26	1	2559	11	2540	8	37	23	*	14
1983	127	196	10	1	2423	31	2385	7	28	19	*	9
1984	95	152	-	2	2204	60	2141	3	92	71	-	21
1985	138	242	-	3	1940	-	1940	-	31	16	*	14
1986	99	282	5	2	2416	21	2392	3	54	40	-	14
1987	113	212	1	34	2475	-	2472	3	109	101	1	8
1988	86	273	-	5	2264	-	2260	4	81	71	*	9
1989	81	267	-	57	3079	-	3061	18	43	33	-	10
1990	67	290	-	24	2484	-	2474	10	98	76	*	22
1991	50	270	-	12	2253	-	2243	10	169	151	1	17
1992	77	328	54	18	2173	-	2165	8	202	188	1	14

^a Including Taiwan Province.^b - = magnitude zero, * = less than 500 t.

EUROPE	Belgium Luxembourg	France	Germany	Italy	Nether- lands	Spain	Others ^c	Former USSR	OCEA- NIA	Austra- lia	Others ^c	YEAR
397	15	10	5	218	25	93	32	1	63	62	1	1961
319	19	23	8	180	26	46	17	12	53	52	1	1962
246	8	6	11	147	19	42	13	12	59	58	1	1963
233	7	4	15	68	18	69	52	4	58	57	1	1964
267	8	10	22	103	17	84	23	3	67	65	2	1965
225	6	7	16	76	17	57	46	4	67	65	2	1966
358	5	39	21	153	17	109	13	4	90	90	-	1967
443	11	68	23	184	20	100	37	4	102	102	-	1968
302	14	17	18	175	22	50	6	5	110	110	-	1969
508	16	19	25	345	21	70	13	8	121	121	-	1970
559	16	10	18	434	18	41	23	14	103	102	1	1971
522	24	5	34	364	22	56	18	87	181	181	-	1972
393	29	3	35	228	34	48	16	83	159	158	1	1973
607	26	3	30	450	37	46	16	147	138	137	1	1974
614	25	3	28	439	58	49	13	15	174	174	-	1975
660	43	4	44	389	152	9	19	11	218	218	-	1976
739	40	65	52	303	87	82	111	9	257	255	2	1977
839	52	56	70	439	76	49	98	13	279	277	2	1978
874	77	35	37	525	80	55	65	21	244	241	3	1979
953	101	15	29	577	125	58	47	17	461	457	4	1980
1003	111	4	31	579	176	78	23	16	284	281	2	1981
936	162	7	38	532	122	62	14	21	598	596	2	1982
953	115	74	40	547	122	34	22	23	406	405	1	1983
992	139	78	45	536	111	46	36	51	246	246	1	1984
1213	142	18	41	727	141	112	32	23	342	341	1	1985
1203	122	51	42	676	101	72	141	73	520	519	1	1986
1158	130	27	32	610	129	171	59	73	359	359	-	1987
948	117	31	35	510	87	119	49	23	315	314	1	1988
1070	135	58	32	515	91	180	60	61	339	339	-	1989
1087	124	44	31	577	88	178	46	35	425	424	1	1990
1266	126	57	45	644	86	241	68	20	425	425	-	1991
1346	136	71	42	739	84	220	54	10	519	519	-	1992

^cIncludes countries reporting less than 25,000 t of exports from 1961 to 1990.

Source: FAO AGROSTAT 1994. FAO, Rome.

Table 13. Exports of milled rice (million US\$ free on board), by country and geographical region, 1961-92.

YEAR	WORLD	ASIA	Cambo- dia	China ^a	Hong- kong	India	Indo- nesia	Japan	Korea DPR	Korea Rep	Malay- sia	Myan- mar	Nepal
1961	748.2	509.5	22.4	55.0	5.1	- ^b	-	* ^b	2.8	0.5	2.9	146.8	43.0
1962	829.8	553.3	13.0	89.2	7.9	*	-	0.1	*	8.9	3.2	167.1	46.0
1963	997.6	696.0	43.5	141.2	2.7	0.6	-	0.1	-	0.8	1.4	170.2	45.0
1964	1068.8	720.1	57.5	154.0	6.1	0.6	-	*	-	2.4	1.0	149.2	75.0
1965	1074.4	677.8	53.1	143.1	3.3	0.5	*	0.1	4.9	3.2	3.6	138.3	70.0
1966	1131.0	727.3	22.5	219.6	3.6	0.4	-	-	9.1	6.8	1.9	120.1	70.0
1967	1300.2	781.9	35.8	281.0	1.2	0.9	-	0.1	19.7	-	0.5	66.5	70.0
1968	1316.1	686.4	35.7	270.4	1.9	0.6	-	0.2	9.7	-	0.4	50.7	65.0
1969	1346.7	737.6	11.5	232.4	2.2	3.8	-	140.6	15.6	0.1	0.2	66.9	54.8
1970	1192.4	667.1	16.1	203.8	1.6	5.6	-	158.1	14.0	-	*	53.4	40.3
1971	1096.1	639.4	1.9	182.1	1.6	3.2	-	126.6	14.0	-	0.2	60.6	52.5
1972	1215.2	610.1	0.4	182.9	9.7	3.6	-	28.6	13.5	-	2.1	40.8	35.0
1973	1934.9	1067.6	-	519.3	18.5	4.3	-	101.4	16.5	8.3	1.6	17.8	68.0
1974	3273.1	1841.1	-	851.3	10.5	25.9	-	61.7	57.2	0.1	*	81.3	23.5
1975	2890.8	1490.4	-	720.0	1.4	12.1	0.1	2.3	96.4	*	-	73.8	38.5
1976	2501.8	1331.4	-	450.0	0.6	14.0	-	0.3	23.2	0.3	-	107.9	43.4
1977	2903.1	1477.2	-	286.3	1.0	6.0	-	5.2	84.0	12.5	-	115.9	28.9
1978	3380.0	1673.0	12.0	495.1	1.6	51.3	*	28.0	148.0	18.9	-	73.4	16.8
1979	3837.2	2214.7	4.2	422.1	1.3	112.1	-	156.6	88.8	0.1	-	135.1	21.4
1980	5011.3	2777.3	-	509.8	3.0	173.3	3.0	241.4	97.6	0.1	*	182.3	3.5
1981	5825.2	3281.9	-	260.7	2.5	441.1	-	371.2	118.7	0.1	*	216.5	16.6
1982	4207.4	2283.8	-	233.8	2.5	268.0	-	121.4	77.0	0.1	3.8	156.2	17.2
1983	3623.0	1924.2	-	259.0	3.0	134.7	-	105.5	35.0	0.1	-	165.4	0.8
1984	3891.6	2253.7	-	316.9	3.1	113.1	-	33.5	40.0	33.7	3.4	118.3	5.1
1985	3298.8	1763.5	-	233.0	3.9	188.3	69.0	0.3	50.0	0.5	0.7	92.0	13.0
1986	3308.1	1738.0	-	211.3	3.7	152.9	29.2	0.2	44.0	0.2	0.1	78.8	3.1
1987	3438.1	1881.3	-	220.4	3.9	260.7	11.0	0.2	61.1	0.2	0.2	38.3	0.4
1988	4054.4	2292.8	-	204.2	4.8	228.7	-	0.2	51.0	0.6	0.8	8.3	-
1989	4962.0	2909.1	-	111.6	12.5	255.9	12.4	0.1	18.0	0.9	*	38.6	0.1
1990	4150.1	2145.8	-	98.0	9.9	258.5	0.2	0.1	6.5	1.2	*	53.0	-
1991	4453.9	2376.5	-	181.8	21.3	338.9	*	0.2	1.3	1.5	0.2	37.8	-
1992	5123.1	2894.4	-	232.9	24.6	370.0	8.5	0.3	0.8	0.8	0.1	43.0	-

Pakis- tan	Philip- pines	Singap- ore	Thai- Land	UAE	Viet- nam	Others ^e	SOUTH AMERICA	Argen- tina	Brazil	Colom- bia	Guyana	YEAR
22.1	*	18.7	168.8	-	18.1	3.5	34.1	0.9	13.2	-	13.2	1961
23.1	*	26.0	155.8	-	9.6	3.5	25.5	2.4	4.8	0.6	11.9	1962
56.6	0.1	28.7	165.0	-	36.6	3.6	21.9	1.2	-	0.4	11.7	1963
37.6	0.1	14.5	211.0	-	6.6	4.6	20.1	0.5	0.9	*	12.7	1964
27.6	*	13.1	208.4	-	0.3	8.4	48.0	3.6	23.8	*	13.4	1965
58.2	*	14.5	192.4	-	1.6	6.5	69.5	5.5	33.3	-	14.5	1966
58.1	0.4	13.7	230.1	-	0.5	3.5	43.2	5.8	4.8	-	14.5	1967
45.6	5.9	14.1	181.5	-	0.4	4.3	55.6	7.6	21.2	-	13.1	1968
53.1	0.1	8.4	141.6	-	3.3	3.0	43.2	8.0	7.8	3.2	9.8	1969
40.0	0.4	6.2	121.0	-	2.9	3.6	39.4	9.0	6.8	0.6	9.1	1970
36.3	0.3	5.9	139.9	8.0	0.9	5.3	45.5	9.5	11.5	0.1	10.7	1971
52.4	1.2	9.2	213.3	12.0	0.5	4.9	25.9	2.2	0.2	0.7	12.3	1972
107.9	1.3	10.8	174.3	7.0	0.4	10.1	71.7	12.0	4.2	3.4	11.9	1973
211.9	-	6.8	484.3	15.0	0.7	11.0	124.5	14.9	18.1	0.5	22.0	1974
232.7	*	5.6	287.2	8.0	6.5	5.9	156.5	21.5	1.2	22.0	36.1	1975
250.4	-	1.2	421.7	8.0	1.4	9.0	136.9	17.0	12.0	21.4	37.1	1976
250.3	4.3	2.5	656.0	16.0	1.5	6.8	227.8	40.6	82.8	19.9	26.2	1977
256.8	14.9	7.1	512.7	21.5	0.5	14.6	182.9	36.6	38.4	0.2	37.6	1978
341.4	46.7	5.9	763.6	59.4	49.0	6.9	183.0	30.8	0.2	13.9	31.7	1979
422.1	76.4	10.1	952.7	83.5	10.1	8.1	210.5	46.0	0.5	16.7	34.3	1980
565.8	29.9	2.5	1211.2	38.9	-	6.2	265.2	50.7	19.8	9.5	39.1	1981
392.2	0.2	2.0	978.7	13.0	2.8	15.1	177.2	17.1	3.8	-	20.2	1982
290.9	9.4	1.3	876.4	21.2	13.5	8.0	164.0	23.3	1.3	2.8	21.6	1983
420.9	1.4	2.8	1100.6	27.4	22.0	11.5	168.8	42.9	0.4	11.0	21.4	1984
220.4	*	1.9	829.7	39.5	15.0	5.3	190.6	33.8	2.1	12.7	13.3	1985
342.7	*	3.4	772.7	47.4	32.0	22.2	167.4	31.2	1.6	1.0	13.4	1986
298.1	24.7	2.2	882.2	50.0	23.0	4.8	132.9	10.5	1.5	*	16.0	1987
365.1	-	1.8	1371.0	27.0	22.5	6.9	166.7	11.1	7.0	*	13.9	1988
310.3	2.7	1.5	1768.9	79.9	290.0	5.8	197.2	30.4	3.1	12.4	14.3	1989
241.8	-	1.2	1086.3	80.0	304.6	4.5	201.8	27.4	0.9	19.1	13.3	1990
345.2	2.3	0.8	1196.0	53.1	187.6	8.6	228.2	36.1	1.1	25.0	20.6	1991
412.3	8.5	0.5	1425.8	75.0	285.0	6.5	247.1	53.1	0.8	0.3	34.5	1992

Table 13. Continued

YEAR	Suri- nam	Uru- guay	Vene- zuela	Others ^c	N&C AMERICA	Costa Rica	USA	Others ^c	AFRICA	Egypt	Mada- gascar	Others ^c
1961	1.8	2.1	-	2.9	113.2	-	112.4	0.8	35.7	25.9	4.8	5.0
1962	2.6	2.6	-	0.7	163.3	0.1	153.4	9.8	32.4	16.7	9.0	6.8
1963	2.7	2.2	-	3.7	178.9	*	178.2	0.7	54.4	45.0	5.4	4.0
1964	1.7	3.0	-	1.3	206.2	-	205.5	0.7	78.9	69.8	6.0	3.1
1965	2.6	2.1	2.5	-	245.7	-	244.5	1.3	51.6	45.6	2.7	3.3
1966	2.8	5.7	4.8	3.0	231.5	*	229.6	1.9	56.6	48.8	4.3	3.6
1967	3.8	6.0	8.3	-	321.8	0.1	318.8	2.9	80.1	68.5	7.5	4.1
1968	5.3	3.1	5.4	-	356.8	0.2	347.7	8.9	119.9	103.4	12.3	4.3
1969	3.9	9.3	1.1	-	352.2	0.8	348.8	2.7	142.2	127.1	9.5	5.6
1970	2.7	3.7	7.3	0.2	309.0	-	306.3	2.7	89.8	78.6	7.5	3.8
1971	6.4	7.2	-	0.2	258.0	-	255.9	2.1	68.9	56.4	7.4	5.1
1972	4.4	6.0	-	0.3	391.7	-	388.9	2.8	61.6	50.7	6.5	4.4
1973	11.5	15.0	1.6	12.2	545.5	0.1	541.2	4.2	77.4	65.8	2.5	9.1
1974	18.4	28.2	20.4	2.1	860.8	5.6	852.5	2.7	115.4	101.4	4.5	9.5
1975	26.0	33.2	11.7	4.7	861.0	2.2	858.0	0.8	69.0	61.8	2.5	4.8
1976	19.9	26.1	0.3	3.1	631.6	0.6	628.9	2.1	94.9	79.2	2.1	13.6
1977	20.9	32.5	-	4.9	741.0	9.2	730.5	1.2	72.2	59.8	1.5	10.9
1978	27.9	35.0	-	7.1	959.3	8.8	929.0	21.5	56.0	50.8	0.8	4.4
1979	38.3	61.0	3.0	4.2	869.7	14.8	850.6	4.4	38.3	31.5	0.7	6.0
1980	42.2	64.2	6.5	0.2	1300.8	15.8	1284.8	0.2	45.3	35.2	1.0	9.1
1981	36.6	109.3	0.1	-	1551.9	24.1	1527.1	0.7	51.6	42.6	1.0	7.9
1982	39.4	92.4	4.1	0.2	1005.4	5.1	997.5	2.8	15.9	11.6	0.1	4.1
1983	37.0	76.6	1.0	0.3	941.4	13.5	925.7	2.2	10.1	7.1	0.1	3.0
1984	34.5	57.8	-	0.8	861.0	14.0	845.5	1.5	27.5	22.5	*	4.9
1985	46.4	81.1	*	1.3	665.1	-	664.9	0.2	10.4	5.4	*	4.9
1986	32.7	84.4	1.8	1.1	627.6	4.4	622.1	1.1	19.8	16.0	-	3.8
1987	37.6	55.3	1.4	10.6	577.9	-	576.7	1.2	42.4	39.7	0.2	2.6
1988	39.9	90.7	-	4.2	804.3	-	802.4	1.9	22.4	17.6	*	4.8
1989	31.7	89.4	-	15.9	987.9	*	982.6	5.3	13.1	8.3	-	4.8
1990	26.2	103.6	-	11.2	809.4	-	803.8	5.6	26.1	18.2	0.2	7.7
1991	20.5	117.9	*	6.9	762.2	-	756.3	5.9	45.5	38.7	0.3	6.4
1992	26.5	107.6	13.9	10.4	741.0	-	735.0	6.0	62.6	57.3	0.3	4.9

^aIncluding Taiwan Province.^b - = magnitude zero; * = less than US\$ 10,000.

EUROPE	Belgium Luxembourg	France	Germany	Italy	Nether- lands	Spain	Others ^c	Former USSR	OCEA- NIA	Austra- lia	Others ^c	YEAR
48.1	1.8	1.8	0.7	25.7	3.9	9.3	5.0	0.1	7.4	7.2	0.1	1961
46.8	3.0	3.4	1.2	26.3	4.5	5.8	2.6	1.9	6.6	6.5	0.2	1962
36.6	1.2	0.9	1.7	22.0	3.4	5.9	1.5	2.0	7.9	7.7	0.2	1963
34.6	1.3	0.6	2.0	10.7	3.4	9.6	7.1	0.6	8.3	8.1	0.2	1964
41.6	1.2	1.5	3.6	17.2	3.4	12.0	2.8	0.4	9.2	8.9	0.3	1965
36.2	1.0	1.2	2.8	13.4	3.4	8.2	6.1	0.6	9.4	9.1	0.3	1966
59.8	0.9	6.3	4.0	26.9	3.9	15.9	2.0	0.6	12.9	12.9	-	1967
82.1	2.4	11.4	4.9	35.0	5.1	16.0	7.3	0.6	14.7	14.7	-	1968
53.3	4.7	2.3	4.3	28.9	5.4	6.8	1.0	0.6	17.6	17.6	-	1969
66.9	5.7	3.4	5.3	37.9	5.1	7.7	1.8	1.1	19.2	19.2	-	1970
68.1	6.5	1.3	3.8	44.9	4.2	4.4	3.0	1.3	14.9	14.8	0.1	1971
93.3	9.3	1.0	11.6	55.8	5.6	7.3	2.6	9.9	22.8	22.8	-	1972
130.0	13.4	1.4	19.3	68.7	13.7	9.7	3.9	14.8	27.8	27.5	0.3	1973
254.4	19.1	1.7	27.2	164.1	22.6	13.6	6.2	34.0	42.8	42.3	0.5	1974
250.9	16.1	1.6	22.4	160.7	27.7	18.4	4.0	4.0	58.9	58.8	-	1975
239.9	22.3	2.4	31.6	121.5	54.4	1.9	5.8	2.4	64.9	64.8	0.1	1976
315.9	24.2	25.9	38.2	131.7	38.9	22.7	34.4	2.5	66.6	65.8	0.7	1977
428.7	42.9	26.2	47.6	213.3	42.2	17.5	39.1	3.8	76.3	75.2	1.1	1978
449.7	68.0	20.6	25.5	236.5	44.5	19.4	35.2	5.2	76.6	75.2	1.4	1979
525.9	90.8	9.8	21.6	288.6	70.2	21.8	23.0	4.5	147.0	144.7	2.3	1980
553.0	90.4	2.9	21.5	296.7	96.5	34.8	10.4	4.5	117.2	116.0	1.2	1981
501.9	105.4	3.9	23.4	272.1	66.1	24.4	6.6	6.2	217.0	215.9	1.1	1982
463.6	89.9	41.5	23.3	226.0	62.1	10.3	10.5	6.5	113.2	112.8	0.4	1983
484.7	105.3	37.8	24.8	227.3	57.9	14.6	16.9	12.7	83.4	83.3	0.1	1984
569.1	114.1	11.0	23.4	303.5	70.7	32.4	14.1	5.8	94.4	94.3	0.1	1985
611.5	128.1	36.4	28.6	281.1	63.3	21.5	52.6	13.8	130.2	129.9	0.2	1986
692.6	152.4	22.4	27.0	308.5	77.0	76.0	29.5	18.1	92.9	92.9	-	1987
667.9	148.6	26.8	29.9	298.1	72.6	63.9	28.0	5.6	94.7	94.6	0.1	1988
715.2	155.8	36.4	27.2	305.4	70.1	89.3	31.1	17.4	122.1	122.0	-	1989
812.2	168.1	37.9	31.6	356.6	80.9	108.0	29.0	12.0	142.8	142.6	0.2	1990
893.8	152.2	45.5	46.0	360.7	78.3	170.6	40.6	7.2	140.6	140.5	0.1	1991
986.4	158.9	56.0	39.3	452.4	77.2	161.8	40.8	3.3	188.4	188.4	-	1992

^c Includes countries reporting less than 25,000 t of exports from 1961 to 1990.

Source: FAO AGROSTAT 1994. FAO, Rome.

Table 14. Imports of milled rice (000 t), selected countries, by country of origin, 1985-92.

Bangladesh

Year	Total	China ^a	Japan	Myanmar	Pakistan	Thailand	USA	Czechoslovakia	EEC(12) ^c	Norway	Others ^d
1985	256.1	20.1	33.3	29.1	2.3	96.1	75.2	-	-	-	-
1986	89.8	- ^b	23.8	-	-	-	63.4	-	-	-	2.6
1987	665.4	-	45.0	-	155.7	307.2	105.6	-	34.7	-	17.2
1988	146.9	-	25.1	-	106.4	1.5	-	-	4.0	9.8	0.1
1989	327.1	-	18.8	-	-	208.0	29.0	51.3	20.0	-	-
1990	-	-	-	-	-	-	-	-	-	-	-
1991	-	-	-	-	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	-	-	-

^aIncluding Taiwan Province.^b - = magnitude zero.^cEuropean Economic Community, 12 member countries except in 1985 composed of 10 member countries only.

Excluding trade between EEC member countries.

^dIncluding countries reporting less than 5% of total volume of imports since 1985.

Source: FAO Committee on Commodity Problem, Intergovernmental Group on Rice

Imports by Origin, 33rd and 36th session, 20-23 March 1990 and 28 June-1 July 1993.

China^a

Year	Total	Korea DPR	Myanmar	Thailand	Pakistan	Others ^c
1985	213.2	... ^b	...	...	...	...
1986	326.0	...	...	...	...	...
1987	554.9	...	...	...	...	...
1988	314.1	37.1	20.1	256.4	...	0.5
1989	1206.2	60.9	46.00	1002.9	42.4	54.0
1990	62.5	...	...	...	...	...
1991	74.7	11.4	3.4	52.7	5.00	2.2
1992	103.4	4.9	0.8	95.8	...	1.9

^aIncluding Taiwan Province, except in 1992.^b... = data not available.^cIncluding countries reporting less than 5% of total volume of imports since 1988.

Source: FAO Committee on Commodity Problem, Intergovernmental Group on Rice Imports by Origin, 33rd and 36th session, 20-23

March 1990 and 28 June-1 July 1993.

FAO AGROSTAT 1994. FAO, ROME.

Hongkong

Year	Total	China ^a	Thailand	Australia	Others ^b
1985	378.3	152.0	162.0	53.0	11.3
1986	367.7	124.0	162.0	62.4	19.3
1987	351.5	128.5	171.6	39.6	11.8
1988	355.1	95.5	204.0	46.2	9.4
1989	359.5	64.2	224.9	60.6	9.8
1990	353.9	54.5	235.7	55.8	7.9
1991	346.9	47.7	245.4	48.9	4.9
1992	347.4	51.9	242.4	50.9	2.2

^a Including Taiwan Province, except in 1992.

^b Including countries reporting less than 5% of total volume of imports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice Imports by Origin, 33rd and 36th Session, 20-23 March 1990 and 28 June-1 July 1993.

Indonesia, 1985-90.

YEAR	TOTAL	USA	Myan- mar	Philip- pines	Thai- land	Taiwan, China	Others ^a
1985	34.0	3.0	.b	-	24.0	-	7.0
1986	28.0	*	.b	-	26.0	-	2.0
1987	55.0	2.0	-	52.0	*	1.0	-
1988	33.0	1.0	-	-	31.0	1.0	-
1989	268.0	6.0	-	16.0	246.0	-	-
1990	50.0	8.0	-	-	41.0	-	1.0

^a Including countries reporting less than 5% of total volume of imports since 1985. All years.

^b - = magnitude zero; * = less than 500 t.

Source: Biro Pusat Statistik. Statistical yearbook of Indonesia (various issues).

Table 14. Continued

Iran^a

YEAR	TOTAL	Argentina	China, PR	Pakistan	Spain	Thailand	Uruguay	USA	Others ^b
1985	475.0	- ^c	-	54.0	-	297.0	124.0	-	-
1986	193.7	-	-	-	-	192.6	0.5	-	0.6
1987	762.3	29.4	47.2	-	-	604.1	81.6	-	-
1988	288.7	-	-	-	-	288.7	-	-	-
1989	701.2	38.7	-	66.2	50.9	464.0	81.3	-	* ^c
1990	415.5	-	-	12.9	12.0	373.9	16.7	-	-
1991	236.2	-	-	113.3	3.3	106.7	-	-	12.9
1992	771.3	-	-	189.6	*	505.7	17.9	46.3	11.8

^a Rice imports as reported by trading partners.^b Including countries reporting less than 5% of total volume of imports since 1985.^c - = magnitude zero; * = less than 500 t.

Source: FAO Statistics Division. FAO, Rome.

Iraq^a

YEAR	Total	Thailand	Uruguay	USA	Others ^b
1985	405.0	- ^c	-	405.0	-
1986	377.2	-	-	373.2	4.0
1987	513.0	-	-	508.6	4.4
1988	551.1	1.9	33.0	513.1	3.1
1989	432.3	40.5	-	391.8	-
1990	340.3	118.8	-	221.5	-
1991	40.8	39.4	-	-	1.4
1992	133.8	132.5	-	-	1.3

^a Rice imports as reported by trading partners.^b Includes countries reporting less than 5% of total volume of imports since 1985.^c - = magnitude zero.

Source: FAO Statistics Division. FAO, Rome.

Philippines

Year	Total	Vietnam	Thailand	China ^a	USA	Indonesia	Others
1985	540.9	. ^b	138.3	211.1	151.9	39.7	* ^b
1986	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	-
1988	150.3	-	-	-	150.3	-	-
1989	209.9	54.3	51.1	-	-	104.6	*
1990	593.0	334.8	94.6	-	-	163.6	-
1991	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-

^a Includes countries reporting less than 5% of total imports since 1985.

^b - = magnitude zero; * = less than 500 t.

Source: National Statistical Coordination Board, 1993 Philippine statistical yearbook, Manila.

Saudi Arabia^a

YEAR	TOTAL	India	Pakistan	Thailand	USA	Others ^b
1985	424.0	.. ^c	80.0	146.0	194.0	4.0
1986	442.4	51.7	-	192.0	193.0	5.7
1987	521.8	84.8	112.4	119.7	201.5	3.4
1988	469.1	109.4	-	150.8	192.7	16.2
1989	499.6	155.1	22.8	129.3	188.8	3.6
1990	542.3	125.5	58.9	166.2	190.7	1.0
1991	559.9	163.0	112.4	110.2	167.8	6.5
1992	777.7	227.7	163.0	169.9	208.9	8.2

^a Rice imports as reported by trading partners.

^b Including countries reporting less than 5% of total volume of imports since 1985.

^c - = magnitude zero or negligible.

Source: FAO Statistics Division, FAO, Rome.

Table 14. Continued

Singapore

Year	Total	Thailand	Myanmar	Others ^a
1985	185.4	163.0	.. ^b	22.4
1986	240.9	221.3	6.3	13.3
1987	214.6	184.5	14.0	16.1
1988	211.9	189.5	3.3	19.1
1989	210.0	... ^b	...	...
1990	219.3	195.0	2.0	22.3
1991	211.1	190.8	4.7	15.6
1992	234.1	197.7	4.3	32.1

^a Includes countries reporting less than 5% of total volume of imports price since 1985.

^b . = magnitude zero; ... = data not available.

Sources: FAO Committee on Commodity Problem, Intergovernmental Group on Rice, Rice Imports by origin, 33rd and 36th session, 20-23 March 1990 and 28 June-1 July 1993.
FAO AGROSTAT 1994. FAO, Rome.

Sri Lanka

Year	Total	China ^a	Myanmar	Pakistan	Thailand	Vietnam	India	Others ^b
1985	182.5	103.0	23.0	30.0	.. ^c	-	-	26.5
1986	220.2	100.7	9.5	110.0	9.5	-	-	9.5
1987	102.5	20.1	-	79.5	2.9	-	-	-
1988	194.5	92.3	-	96.4	5.6	-	0.1	0.1
1989	291.6	56.8	-	80.0	77.6	74.2	-	3.0
1990	131.8	... ^c	...	...	...	...	...	...
1991	132.1	2.3	-	25.5	0.4	92.0	11.9	-
1992	237.0	...	...	...	...	...	...	...

^a Including Taiwan Province.

^b Includes countries reporting less than 5% of total volume of imports since 1985.

^c - = magnitude zero; ... = data not available.

Sources: FAO Committee on Commodity Problem, Intergovernmental Group on Rice Imports by origin, 33rd and 36th session, 20-23 March 1990 and 28 June - 1 July 1993.

EEC (12 member countries)^a

Year	Total	India	Indonesia	Thailand	USA	Surinam	Netherlands Antilles	Australia	Uruguay	Egypt	Guyana	Others ^c
1985	712.0	12.0	51.0	276.0	227.0	75.0	1 ^b	37.0	6.0	-	5.0	23.0
1986	605.4	13.4	55.1	172.6	192.3	65.7	-	36.4	-	-	-	69.9
1987	560.7	15.1	-	100.5	284.2	71.4	-	6.2	2.4	32.0	25.2	23.7
1988	538.7	16.0	-	102.5	216.6	53.1	-	9.3	77.4	5.7	30.9	27.2
1989	625.5	22.7	-	105.9	365.2	41.7	-	17.7	5.7	-	17.5	49.1
1990	520.0	22.6	-	97.1	279.6	38.9	-	21.6	5.4	-	24.2	30.6
1991	510.0	33.7	-	118.3	251.4	28.1	-	31.9	-	11.6	24.8	10.2
1992	301.6	23.5	-	54.6	148.2	22.4	18.8	13.7	-	-	11.7	8.7

^a European Economic Community; in 1985, only 10 member countries.

Excluding trade between EEC member countries.

^b - = magnitude zero.

^c Includes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice Exports by Destination, 33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Table 15. Exports of milled rice (000 t), selected countries, by country of destination, 1985-92.

China^a

Year	Hong-kong	Philippines	Sri Lanka	Côte d'Ivoire	Guinea	Libya	Mauritius	Senegal
1985	149.8	90.8	131.5	79.7	-	30.5	35.4	25.3
1986	124.0	- ^b	101.9	80.6	21.0	41.3	49.8	-
1987	161.3	-	10.2	109.2	14.0	30.7	51.3	-
1988	106.0	0.6	112.9	57.3	28.5	20.0	53.7	10.5
1989	62.2	10.3	66.0	-	15.2	20.2	47.2	37.2
1990	43.7	-	5.0	-	-	-	47.6	15.0
1991	84.7	91.1	-	34.5	15.8	48.6	79.4	-
1992	50.2	-	19.9	84.2	78.7	89.0	32.4	-

Year	Togo	Cuba	Mexico	Brazil	Peru	Czechoslovakia	Poland	Romania	Others ^c
1985	-	50.7	60.3	43.8	-	49.8	65.4	20.4	206.8
1986	-	100.5	-	69.7	49.5	40.7	60.3	30.5	361.3
1987	115.0	-	-	101.2	93.3	40.7	74.9	49.9	416.5
1988	70.9	50.0	-	-	-	29.9	60.2	21.1	181.7
1989	18.9	9.9	-	-	-	20.2	15.1	10.1	51.2
1990	37.4	25.6	-	-	-	30.5	-	31.1	169.6
1991	81.1	138.0	-	15.0	-	40.4	8.2	-	181.0
1992	109.7	140.4	43.0	-	-	36.1	39.8	-	230.0

^a Including Taiwan Province, except in 1992.

^b - = magnitude zero.

^c Includes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice.

Rice exports by destination, 33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Myanmar

Year	Total	Bang-ladesh	China ^a	Malaysia	Maldives	Singapore	Sri Lanka	Viet Nam	Angola	Cote d'ivoire
1985	452.0	63.0	57.0	44.0	-	-	32.0	58.0	13.0	-
1986	635.9	^b	76.4	-	2.2	7.0	13.5	223.7	38.3	-
1987	485.9	-	92.6	13.7	-	9.4	9.9	-	13.0	23.4
1988	64.0	-	18.2	-	3.4	4.0	-	-	-	-
1989	158.8	-	39.3	-	8.3	7.8	28.5	-	11.0	9.9
1990	86.8	-	-	10.0	10.7	1.4	30.9	-	-	-
1991	202.5	-	-	-	10.0	3.6	42.0	-	-	1.8
1992	205.4	-	-	-	2.8	0.5	32.5	-	-	12.0

Year	Gambia	Ghana	Madagascar	Mauritius	Reunion	Senegal	Seychelles	Nicaragua	EEC12 ^c	Switzerland	Others
1985	-	20.0	-	-	35.0	36.0	-	-	5.0	-	89.0
1986	7.1	5.7	-	-	20.8	44.5	-	-	-	21.7	175.0
1987	36.0	7.9	25.1	10.4	26.5	28.4	49.4	26.3	38.9	9.9	65.1
1988	-	5.0	-	10.5	-	7.4	-	-	4.1	6.0	2.0
1989	-	-	-	10.5	-	-	-	-	4.0	-	39.5
1990	-	8.3	-	10.6	-	-	-	-	-	-	14.9
1991	4.9	-	-	10.0	-	-	-	-	-	-	130.2
1992	10.9	8.4	-	20.0	-	-	1.1	-	-	-	117.2

^aIncluding Taiwan Province.

^b = magnitude zero.

^cEuropean Economic Community, 12 member countries except in 1985 when there were only 10 members.

^dIncludes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice, Rice Exports by Destination
33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Table 15. Continued

Pakistan

Year	Total	Afghanistan	Bangladesh	Iran	Jordan	Malaysia	Oman	Qatar	Saudi Arabia	Singapore
1985	962.0	- ^a	11.0	54.0	-	49.0	65.0	2.0	80.0	2.0
1986	1142.0	-	11.0	202.0	-	1.0	32.0	10.0	120.0	1.0
1987	1310.2	-	361.7	144.8	-	1.0	5.7	8.4	83.5	13.1
1988	942.6	-	140.2	25.0	-	1.7	26.2	15.2	74.1	0.9
1989	761.9	-	48.3	109.0	-	1.0	-	12.5	38.9	80.2
1990	851.0	-	-	12.6	-	1.1	15.7	11.4	54.3	12.5
1991	1297.0	14.6	20.2	321.7	15.4	1.6	4.1	14.4	109.4	1.5
1992	1357.8	71.9	15.6	188.6	148.3	15.2	38.5	163.1	163.1	18.6

Year	U.A. Emirates	Cameroon	Côte d'Ivoire	Kenya	Madagascar	Mauritania	Senegal	logo	Brazil	Romania	Others ^b
1985	25.0	119.0	15.0	-	40.0	-	48.0	42.0	157.0	-	223.0
1986	50.0	126.0	107.0	-	10.0	-	35.0	78.0	107.0	-	138.0
1987	36.1	62.3	173.0	20.5	5.0	15.0	67.7	21.5	-	-	206.1
1988	82.3	-	30.3	0.5	49.7	11.7	110.8	15.3	-	-	281.3
1989	42.2	5.9	-	-	-	63.8	61.0	-	-	-	218.9
1990	72.6	51.4	27.4	3.0	-	-	38.0	82.7	-	-	393.4
1991	64.2	14.0	35.2	57.9	-	-	2.7	9.3	-	65.3	531.4
1992	141.0	-	18.7	77.2	-	-	1.5	40.6	-	6.3	198.4

^a - = magnitude zero.^b Includes countries reporting Less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice. Rice Exports by Destination, 33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Thailand

Year	Total	Indonesia	Hong-kong	Iran	Malaysia	Singapore	Nigeria	China ^a
1985	4005.0	49.0	169.0	297.0	323.0	192.0	297.0	66.0
1986	4323.0	21.5	179.6	174.4	210.4	248.9	40.4	258.9
1987	4357.3	17.0	191.9	570.6	175.7	231.7	4.0	314.5
1988	4782.9	27.0	212.6	259.9	277.7	260.7	- ^b	369.7
1989	6037.0	356.2	251.0	440.4	377.5	277.2	-	927.0
1990	3926.8	21.0	256.6	378.8	282.4	219.4	-	17.4
1991	3995.3	96.6	280.0	93.0	320.7	200.5	-	54.4
1992	4779.9	384.0	265.6	522.9	178.3	204.7	-	95.2

Year	Benin	Senegal	UAE ^c	India	Brazil	EEC(12) ^d	CIS ^e	Others ^f
1985	41.0	63.0	57.0	-	156.0	327.0	193.0	1775.0
1986	82.1	218.3	132.5	-	289.0	299.5	169.4	1998.1
1987	345.8	101.2	211.6	8.5	-	120.0	105.0	1959.8
1988	232.2	101.0	168.0	683.8	83.9	152.6	10.1	1943.7
1989	54.3	103.9	233.5	103.9	-	157.3	215.0	2539.8
1990	133.2	212.2	258.4	6.0	-	122.5	29.4	1989.5
1991	188.8	356.0	178.3	-	48.4	272.0	175.7	1730.9
1992	258.3	135.5	230.1	-	-	110.3	422.2	1972.8

^a Including Taiwan Province, except in 1992.

^b - = magnitude zero.

^c United Arab Emirates.

^d European Economic Community, 12 member countries except in 1985 when it had 10 only members.

^e Commonwealth of Independent States, formerly USSR.

^f Includes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice, Rice Exports by Destination, 33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Table 15. Continued

USA

YEAR	TOTAL	Iraq	Philippines	Saudi Arabia	Turkey	South Africa	Senegal
1985	1906.0	405.0	124.0	194.0	-	66.0	125.0
1986	2389.0	379.0	- ^a	203.0	50.0	64.0	57.0
1987	2444.2	508.6	-	201.5	72.8	83.2	65.9
1988	2247.7	513.2	150.3	192.6	58.0	96.9	87.5
1989	2973.7	387.8	2.6	189.0	197.9	91.3	113.6
1990	2423.7	221.5	-	190.5	143.9	108.1	37.8
1991	2196.7	-	-	167.8	81.2	134.7	63.4
1992	2105.2	-	0.4	208.9	180.6	125.3	73.3

YEAR	Canada	Brazil	Haiti	Mexico	EEC(12) ^b	Switzerland	Others ^c
1985	95.0	-	2.0	-	188.0	39.0	668.0
1986	68.0	340.0	4.0	1.0	219.0	53.0	951.0
1987	68.7	-	98.0	-	376.9	85.8	882.8
1988	91.0	-	53.3	1.3	265.6	53.5	684.5
1989	90.0	3.0	78.9	189.2	452.2	121.0	1057.2
1990	121.3	149.6	111.4	113.0	319.0	74.9	832.7
1991	128.6	225.1	103.0	64.6	272.0	126.6	829.7
1992	136.0	5.8	131.0	151.2	259.0	69.5	764.2

^a - = magnitude zero.^b European Economic Community, 12 member countries, except in 1985 when it had 10 only members.^c Includes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice, Rice Exports by Destination, 33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Year	Total	Iran	India	Indonesia	Korea DPR	Malaysia	Philippines	Sri Lanka	Côte d'Ivoire
1985	59.4	... ^a	...	...	...	...	...	...	...
1986	158.1	...	...	...	...	...	...	...	...
1987	120.4	...	...	...	...	...	...	...	...
1988	91.0	...	...	...	...	...	...	...	...
1989	1382.7	... ^a	510.2	-	-	-	54.6	74.1	269.2
1990	1670.0	200.6	41.9	-	-	-	429.6	70.5	68.4
1991	1048.1	20.2	56.4	56.4	132.5	33.4	-	100.3	18.4
1992	1950.0	53.1	44.2	37.6	-	240.0	6.2	127.5	93.7

Year	Guinea	Senegal	Sierra Leone	Brazil	Mexico	Peru	CIS ^b	Others ^c
1985	...	...	...	...	...	...	...	...
1986	...	...	...	...	...	...	...	...
1987	...	...	...	...	...	...	...	...
1988	...	...	...	...	...	...	...	...
1989	87.1	37.2	77.6	-	-	-	-	272.7
1990	77.7	59.7	15.1	36.9	34.7	48.7	140.1	446.1
1991	16.4	-	9.3	156.7	61.9	72.2	42.5	271.5
1992	60.3	98.8	22.6	27.0	124.4	102.2	130.0	782.4

^a = magnitude zero; ... = data not available.

^b Commonwealth of Independent States, formerly USSR.

^c Includes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice, Rice exports by destination, 33rd, 36th, and 37th Sessions, 20-23 March 1990, 28 June-1 July 1993, and 28 November-2 December 1994.

Table 15. Continued

EEC (12)^a

YEAR	TOTAL	Iran	Iraq	Jordan	Lebanon	Syria	Turkey	Algeria	Libya	Mozambique
1985	468.0	.b	-	46.0	30.0	-	56.0	-	-	22.0
1986	498.8	-	-	30.4	24.9	41.0	49.7	-	25.1	7.9
1987	451.2	-	-	48.4	19.7	15.7	76.7	-	29.9	35.4
1988	327.6	-	25.3	-	15.5	12.6	26.5	16.9	14.6	28.4
1989	378.2	50.9	-	-	21.5	-	31.1	3.4	12.5	16.4
1990	356.7	12.1	-	5.1	19.3	27.6	19.7	3.6	-	12.5
1991	468.2	-	-	8.7	25.7	15.1	10.1	29.1	20.8	29.1
1992	625.5	-	-	14.6	9.4	-	26.8	-	20.3	-

Year	Reunion	Sierra Leone	Nicaragua	Austria	Czechoslovakia	Poland	Yugoslavia	CISc	Others ^d
1985	27.0	25.0	1.0	32.0	-	-	10.0	-	219.0
1986	2.1	25.0	3.7	30.4	-	-	4.4	-	254.2
1987	19.1	-	11.9	35.1	-	-	-	-	159.3
1988	28.5	5.5	20.2	27.6	-	-	-	-	106.0
1989	61.1	5.6	2.4	23.8	4.0	-	-	-	145.5
1990	-	1.9	1.7	28.7	14.7	39.3	25.3	-	145.2
1991	-	-	-	33.3	40.4	21.3	10.8	37.4	186.4
1992	-	12.0	-	8.1	21.8	-	9.4	71.0	432.1

^a European Economic Community, 12 member countries, except in 1985 composed of 10 member countries only.

^b - = magnitude zero.

^c Commonwealth of Independent States, formerly USSR.

^d Includes countries reporting less than 5% of total volume of exports since 1985.

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice, Rice Exports by Destination, 33rd and 36th Sessions, 20-23 March 1990 and 28 June-1 July 1993.

Food aid

Table 16. Rice food aid (000 t), by donor, 1970-92.

DONOR	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
<i>in general</i>											
Australia	5.0	14.7	-	-	4.5	15.1	0.6	6.7	15.2	17.0	4.6
Austria	-	-	25.2	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-	-	-
China	6.2	10.0	-	55.0	47.0	27.9	11.5	-	-	1.0	2.1
EEC ^b	-	153.0	95.7	9.3	26.6	19.0	47.1	133.3	79.1	89.6	119.5
Community action	-	-	-	-	-	7.2	18.5	58.8	39.5	26.6	78.1
Belgium & Luxembourg	-	-	-	-	-	-	-	-	-	-	-
Denmark	-	-	-	-	-	-	-	10.7	3.6	-	-
France	-	-	-	-	-	-	-	-	-	-	-
Germany, Fed. Rep.	7.8	55.0	0.2	-	-	-	1.7	21.9	3.7	2.6	10.6
Italy	-	-	-	5.3	13.6	10.1	14.4	7.9	1.9	39.6	25.2
Netherlands	-	27.0	10.0	-	-	1.7	12.5	34.0	22.8	13.3	5.6
Spain	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	-	56.0	84.0	-	-	-	-	-	7.6	7.6	-
Finland	-	-	-	-	-	-	-	-	-	-	-
India	-	-	-	-	-	-	-	-	-	0.3	51.0
Japan	753.0	731.0	528.0	349.9	182.2	33.1	68.3	135.4	352.0	688.0	887.7
Norway	-	-	-	-	-	-	-	-	-	8.5	2.3
OPEC ^c Special Fund	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	10.5	1.0
Sweden	-	-	-	-	4.0	-	7.9	4.1	10.0	-	1.9
Switzerland	-	-	-	-	-	-	-	-	-	-	2.9
USA	923.1	1061.5	1049.2	641.4	746.9	510.5	844.8	701.9	481.2	493.6	429.2
WFP ^d purchases	-	-	-	-	-	-	-	21.9	28.9	1.5	3.1
Others	-	220.5	294.7	1.1	25.5	61.8	19.3	80.3	4.3	101.5	18.5
TOTAL	1695.1	2190.7	1992.8	1056.7	1036.7	667.4	999.5	1083.6	970.7	1411.5	1523.7
Multilateral	... ^a	...	...	...	...	...	...	...	83.0	147.0	180.0

^a - = magnitude zero; ... = data not available.

^b European Economic Community.

^c Organization of Petroleum Exporting Countries.

^d World Food Program.

Source: FAO. Food aid in figures. Rome (various issues).

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	DONOR
-	-	-	-	-	-	1.4	-	-	-	-	0.7	Argentina
9.2	58.4	48.4	52.8	51.2	38.6	31.6	50.3	19.4	29.9	48.5	23.7	Australia
-	8.0	3.7	3.6	-	5.9	0.2	3.7	2.1	-	2.1	-	Austria
-	-	-	2.0	-	-	-	-	0.2	-	5.6	-	Canada
5.5	1.0	-	3.5	5.7	-	-	-	-	-	-	-	China PR
103.9	144.1	136.1	169.1	210.7	117.1	191.5	180.4	127.6	125.5	234.4	301.7	EEC ^b
42.4	41.7	59.1	32.1	58.9	32.4	71.3	61.7	74.7	50.4	124.0	202.7	Community action
0.3	0.1	-	1.1	-	1.3	-	2.2	2.0	0.4	6.0	-	Belgium & Luxembourg
-	-	-	-	-	-	4.1	20.2	0.3	5.0	-	0.1	Denmark
-	-	-	-	-	1.3	1.5	-	2.5	1.6	2.9	20.6	France
8.3	13.9	23.9	12.2	22.1	4.1	14.4	18.1	10.9	10.4	32.1	23.1	Germany, Fed. Rep
48.0	84.0	49.4	108.8	117.5	61.3	39.7	64.3	29.4	10.6	52.6	27.9	Italy
4.9	4.4	3.7	5.9	10.4	16.7	55.3	9.0	5.3	35.4	9.5	22.1	Netherlands
-	-	-	-	-	-	5.2	7.1	1.7	8.8	4.6	3.9	Spain
-	-	-	9.0	1.8	-	-	-	0.6	2.9	2.6	1.3	United Kingdom
-	-	-	-	-	-	-	-	-	-	2.3	-	Finland
0.5	10.0	-	-	-	-	-	-	-	25.2	-	-	India
450.9	434.2	364.7	210.2	315.7	322.7	191.7	179.0	150.6	186.0	158.1	146.8	Japan
-	-	-	5.8	1.0	3.6	23.4	11.6	10.0	3.6	6.2	4.7	Norway
13.0	16.5	12.8	1.0	-	-	-	-	-	-	-	-	OPEC ^c Special Fund
5.0	5.0	6.0	1.1	-	0.7	-	-	-	-	-	-	Saudi Arabia
-	-	-	-	-	-	8.2	0.9	14.0	12.4	31.2	31.3	Sweden
-	2.0	0.1	12.3	7.6	11.8	12.9	14.7	5.0	36.4	17.5	14.6	Switzerland
222.7	491.7	488.1	466.1	543.8	472.2	578.1	401.2	353.6	401.1	417.7	575.6	USA
0.9	17.2	0.9	15.0	6.9	9.2	29.6	11.4	3.0	5.3	2.8	3.7	WFP ^d purchases
57.0	85.7	73.6	52.5	32.1	91.1	49.3	50.7	21.2	7.8	81.0	9.3	Others
868.6	1273.8	1134.4	994.9	1174.7	1072.8	1117.6	905.9	706.6	833.2	1007.4	1112.1	TOTAL
119.7	186.1	144.9	222.6	222.0	146.5	276.3	186.1	290.0	251.2	282.9	325.6	Multilateral

Table 17. Rice food aid (000 t) by recipient, 1970-92.^a

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
AFRICA											
Angola	.b	-	-	-	-	-	-	2.2	0.8	0.7	-
Burkina Faso	-	0.1	-	-	-	-	0.1	4.6	2.2	4.2	6.4
Cameroon	-	-	-	-	-	-	-	-	2.0	0.3	2.5
Cape Verde	-	-	-	-	0.2	1.7	6.5	3.2	5.0	2.0	9.3
Chad	-	-	-	2.0	2.0	2.0	-	3.9	3.7	5.5	1.6
Djibouti	-	-	-	-	-	-	-	0.5	2.7	0.6	7.7
Egypt	-	-	-	-	-	-	5.7	6.9	-	1.2	-
Ethiopia	-	-	-	-	-	-	-	-	-	-	6.5
Gambia	-	-	-	0.5	0.3	0.5	0.5	4.2	3.0	1.4	2.4
Ghana	-	-	-	-	-	-	-	2.2	0.1	-	11.2
Guinea	15.0	18.0	-	-	13.5	17.0	5.0	17.3	22.8	8.9	22.1
Guinea Bissau	-	-	-	-	4.9	9.1	8.6	13.3	12.9	10.7	22.2
Kenya	-	-	-	-	-	0.3	-	-	-	7.8	10.8
Liberia	4.9	7.5	-	-	-	-	-	0.4	-	0.5	24.5
Madagascar	-	-	2.0	57.3	2.1	-	0.9	0.3	5.2	6.9	26.1
Mali	-	-	-	-	5.0	-	0.1	0.1	1.7	4.2	2.5
Mauritania	-	-	-	-	-	-	0.3	0.2	0.1	0.8	0.1
Mauritius	-	2.1	3.0	-	0.2	-	-	1.2	1.2	9.6	7.9
Morocco	-	-	-	-	-	-	-	4.8	4.1	2.6	-
Mozambique	-	-	-	-	-	3.0	3.6	2.2	22.0	17.3	11.1
Niger	-	-	0.2	-	2.5	5.0	3.3	5.3	-	-	-
Senegal	-	-	-	3.0	2.0	-	0.3	3.6	7.8	7.0	36.8
Sierra Leone	-	-	-	-	-	0.1	0.1	0.1	-	25.7	9.0
Somalia	-	-	-	1.7	7.3	2.8	7.5	10.3	16.0	34.7	38.1
Sudan	-	-	-	-	-	-	-	-	-	-	-
Tanzania	-	-	-	-	15.2	5.6	17.8	6.8	20.4	48.8	50.1
Zaire	-	-	-	-	-	17.9	10.5	16.0	21.7	20.7	15.4
Zambia	-	-	-	-	-	-	-	-	4.1	9.0	11.1
N&C AMERICA											
Costa Rica	-	-	-	-	-	0.1	-	-	-	-	-
Dominican Rep	-	-	-	-	-	-	-	1.2	-	5.2	1.1
El Salvador	-	-	-	-	-	-	-	-	1.5	0.9	3.5
Haiti	-	55.0	-	-	-	-	8.3	2.7	4.9	9.2	6.8
Honduras	-	-	-	-	10.5	-	1.2	2.8	-	3.2	1.2
Jamaica	-	-	-	-	-	-	5.0	-	0.3	0.1	-
Nicaragua	-	-	-	-	-	-	-	-	0.5	5.1	1.8
SOUTH AMERICA											
Bolivia	-	-	-	-	-	-	-	0.7	-	-	-
Chile	-	10.0	-	-	-	-	-	0.8	1.4	6.2	3.0
Peru	3.0	-	-	-	-	-	-	-	64.9	54.6	58.2

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
6.3	8.0	11.1	20.3	6.5	17.7	29.7	22.4	12.7	2.9	11.5	9.6	AFRICA
2.2	3.1	4.1	12.7	24.1	4.6	8.4	2.6	2.8	2.4	3.2	2.9	Angola
-	0.3	-	10.7	11.3	6.9	2.3	5.5	-	8.0	8.3	1.2	Burkina Faso
10.5	4.1	9.9	11.6	15.7	7.0	10.4	18.0	16.4	8.5	13.9	8.1	Cameroon
5.1	0.1	3.6	19.1	19.1	14.8	8.0	4.5	0.4	0.9	1.0	-	Cape Verde
4.0	1.7	1.4	7.0	13.2	10.5	4.5	2.1	3.1	5.1	6.7	5.1	Chad
5.0	-	-	0.5	9.2	12.1	13.9	9.2	4.0	0.3	0.4	0.7	Djibouti
5.3	25.0	2.0	10.5	0.3	11.8	6.4	0.1	0.2	0.6	0.5	13.5	Egypt
11.4	10.1	15.2	15.3	17.9	14.4	15.6	9.9	7.0	8.7	6.2	2.1	Ethiopia
17.8	28.2	20.7	18.3	48.0	31.8	48.3	15.6	23.0	16.2	59.7	15.1	Gambia
24.5	18.5	30.4	42.8	53.3	59.3	25.8	34.7	24.8	12.2	30.0	29.6	Ghana
16.0	34.6	15.3	19.9	12.6	6.2	9.3	4.1	2.0	4.9	10.4	8.3	Guinea
6.8	11.3	23.0	-	20.2	22.2	-	-	-	-	16.1	0.5	Guinea Bissau
41.1	55.4	46.5	18.9	76.2	0.7	55.5	27.3	27.4	147.5	121.6	134.3	Kenya
55.1	110.0	50.3	61.0	39.8	97.8	37.8	45.1	6.2	7.0	21.4	11.5	Liberia
20.6	24.9	45.4	65.2	31.8	5.8	11.5	20.8	8.1	-	10.5	-	Madagascar
7.3	3.7	0.3	10.3	22.4	11.0	9.3	9.0	1.5	4.1	2.0	5.9	Mali
16.6	-	7.9	-	-	-	11.8	-	-	-	-	-	Mauritania
0.7	4.2	5.0	10.5	13.1	0.1	0.1	0.1	-	0.2	0.2	0.2	Mauritius
20.0	44.7	47.5	64.8	49.0	57.5	68.0	56.4	62.6	55.3	31.0	52.4	Morocco
0.1	2.4	4.1	10.3	10.8	10.5	4.0	6.7	2.9	1.2	8.7	1.3	Mozambique
22.2	28.1	35.8	5.2	49.4	39.6	64.6	41.5	37.0	16.0	29.4	42.9	Niger
25.4	24.1	5.5	4.5	27.6	31.7	23.0	24.1	20.4	3.9	32.5	9.3	Nigeria
15.5	71.3	40.7	30.0	48.4	21.1	6.0	15.4	0.8	3.6	49.9	116.1	Senegal
7.9	16.5	0.8	10.5	24.0	11.2	1.7	3.0	1.2	-	1.8	-	Sierra Leone
66.2	45.6	33.9	24.7	18.5	22.2	20.6	18.8	13.9	5.4	4.0	14.5	Somalia
4.0	6.0	0.4	-	-	-	20.4	9.8	34.9	19.1	-	2.1	Sudan
-	18.7	7.2	10.5	-	30.7	-	-	-	-	2.0	0.4	Tanzania
-	-	-	-	-	-	-	-	-	-	-	-	Zaire
-	-	-	-	-	-	-	-	-	-	-	-	Zambia
-	13.8	12.0	-	0.4	0.4	0.4	0.5	-	-	-	0.1	N&C AMERICA
12.7	-	-	-	22.6	56.9	-	0.6	0.8	1.3	6.9	1.2	Costa Rica
2.9	4.8	10.6	15.6	9.6	7.9	16.9	4.8	9.6	7.9	10.0	6.7	Dominican Rep
7.9	-	0.1	0.9	-	-	-	-	1.1	-	3.4	3.9	El Salvador
0.9	1.1	2.7	2.3	1.6	4.6	2.3	3.4	3.5	2.6	3.3	1.5	Haiti
11.3	21.2	5.8	40.9	33.8	47.4	4.0	52.6	26.4	31.3	53.6	23.9	Honduras
3.6	4.2	2.0	0.9	0.8	30.1	15.2	3.2	5.0	7.9	12.1	3.6	Jamaica
-	-	-	-	-	-	-	-	-	-	-	-	Nicaragua
-	-	49.1	9.0	0.2	0.4	2.1	0.2	0.5	0.8	0.6	0.6	SOUTH AMERICA
0.4	-	-	-	-	-	7.7	5.0	-	-	-	0.1	Bolivia
2.8	56.9	56.7	42.4	1.1	47.9	1.8	2.4	10.1	11.2	15.0	28.8	Chile
-	-	-	-	-	-	-	-	-	-	-	-	Peru

Table 17. Continued

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
ASIA											
Bangladesh	-	199.2	180.4	83.5	300.2	323.4	97.4	99.2	153.0	241.9	88.1
Cambodia	-	20.0	131.6	328.3	216.4	-	-	-	7.6	157.4	119.5
India	-	185.3	89.0	-	-	20.5	73.7	6.2	6.7	-	-
Indonesia	477.4	611.9	497.0	54.5	135.1	32.4	398.5	655.6	420.1	615.1	274.6
Korea Rep	763.3	534.1	354.5	132.6	211.6	146.6	142.7	-	-	-	512.4
Lao PDR	-	-	-	-	3.0	12.5	11.0	22.2	45.3	2.9	2.0
Lebanon	-	-	-	-	5.4	-	4.8	11.5	9.8	-	-
Nepal	-	-	-	-	-	-	-	-	-	-	8.2
Pakistan	153.0	123.6	-	-	-	-	-	-	-	-	-
Philippines	-	237.5	345.8	67.5	31.7	5.4	7.2	12.5	-	-	1.0
Sri Lanka	-	3.0	1.0	-	40.0	-	30.1	7.5	-	-	-
Syria, A. R.	-	-	-	-	14.4	7.7	39.3	30.4	41.1	14.6	-
Thailand	-	-	-	-	-	-	-	1.9	5.4	1.5	0.0
Vietnam	243.5	126.8	181.6	320.3	-	-	-	57.2	18.0	1.0	57.7
EUROPE											
Poland	-	-	-	-	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	46.8	69.2	24.4	13.8	-	-
WORLD TOTAL	1695.1	2190.7	1992.8	1056.7	1036.7	667.4	999.5	1083.6	970.7	1411.5	1523.7
Total developing											
Africa	1695.1	2190.7	1992.7	1056.7	1035.7	620.6	930.3	1059.2	956.9	1410.9	1523.7
Asia	19.9	29.3	5.6	65.2	56	68.5	77.9	117.4	164.5	253.2	346.4
Latin America	1639.2	2043.4	1980.9	986.7	959.8	549.4	819.3	917.4	717.5	1041.4	1095.7
Other developing ^c	3	65	-	-	10.5	0.1	15.5	8.2	73.5	89.8	78.6
Unspecified ^d	-	-	-	-	-	-	0.1	0.2	1.4	1.5	1.0
Low Income Food	33	53	6.2	4.8	9.4	2.6	17.5	16	-	25	2.0
Deficit ^e	895.8	1591.6	1629	919.4	794.5	462.6	715.9	990	825.6	1291.4	913.6
Sub-Saharan Africa	19.9	27.2	2.6	65.3	55.8	68.5	71.2	103.7	154.5	236.3	337.1
Least developed	17.0	274.4	180.6	88.5	356.7	383.1	185.9	209.2	327.5	428.6	501.1

^aTransfer of rice from donor to recipient countries on a totally grant basis on highly concessional terms.

b. = magnitude zero.

^cCountries with rice food aid less than 10,000 t in all years.

^dRefers mainly to shipments channelled through multilateral organizations for which breakdown by recipient is not available. Includes also minor shipments to some countries and territories.

1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
												ASIA
52.3	225.8	150.2	119.9	23.6	135.9	165.5	43.3	41.1	13.6	23.2	19.9	Bangladesh
36.3	35.8	30.1	22.4	32.2	16.8	7.1	11.4	10.7	18.4	71.6	71.8	Cambodia
-	0.1	6.9	9.1	8.3	0.6	30.3	25.3	24.9	25.4	13.8	15.5	India
13.0	63.3	238.1	17.2	4.1	3.7	3.6	57.8	14.7	15.7	14.2	10.4	Indonesia
243.4	-	-	-	-	-	-	-	-	-	-	-	Korea Rep
1.3	0.6	2.0	6.6	4.5	0.5	17.3	20.1	29.3	-	10.0	7.5	Lao PDR
4.7	7.5	0.1	3.1	-	-	21.8	5.5	11.3	12.2	14.5	0.5	Lebanon
-	26.6	17.3	4.1	-	15.4	4.8	2.2	2.1	1.1	5.3	11.7	Nepal
-	-	-	-	-	-	-	-	-	-	-	-	Pakistan
-	0.5	0.8	30.7	165.7	4.8	99.5	73.1	3.5	37.1	6.8	6.4	Philippines
-	48.8	-	-	-	5.4	37.2	3.0	-	1.1	8.4	4.3	Sri Lanka
1.3	-	0.4	2.8	1.6	5.8	-	3.6	1.0	0.1	0.2	0.3	Syria, A. R.
1.8	8.7	12.5	3.7	88.8	27.4	93.9	80.9	89.7	99.3	76.8	59.8	Thailand
-	-	1.0	11.0	5.5	-	1.2	11.7	10.9	2.3	1.7	0.8	Vietnam
												EUROPE
-	-	-	-	-	-	-	-	-	-	10.0	-	Poland
-	-	-	-	-	-	-	-	-	-	-	-	Portugal
868.7	1273.8	1134.4	994.9	1174.7	1072.8	1117.6	905.9	706.6	833.2	1007.4	1112.1	WORLD TOTAL
												Total developing
845.8	1267.1	1121.8	987.3	1174.7	1072.8	1116.9	905.9	693.6	812.5	985.3	874.1	Africa
433.8	629.0	493.7	559.8	696.4	586.0	545.8	426.7	356.6	430.8	551.7	561.2	Asia
364.7	423.5	463.8	244.5	385.4	255.3	502.5	380.6	266.6	312.3	317.9	230.1	Latin America
45.3	103.0	146.7	117.6	70.7	198.5	65.3	92.1	67.6	68.8	111.5	82.2	Other developing ^c
0.5	0.1	0.8	-	0.7	3.2	-	-	0.8	0.6	4.2	0.6	Unspecified ^d
1.6	111.5	16.8	65.4	21.6	29.6	3.3	5.5	2.0	-	-	-	Low Income Food
562.5	1103.1	1061.9	861.2	1008.6	962.3	967.2	713.8	543.5	641.2	790.7	769.9	Deficit ^e
410.0	624.6	479.1	547.5	672.6	572.6	519.7	410.9	349.9	426.4	549.4	554.5	Sub-Saharan Africa
456.5	834.6	592.2	653.6	625.5	658.7	587.5	436.0	349.1	391.5	508.8	545.9	Least developed ^e

^a Includes all food-deficit countries with per capita income below the level used by the World Bank to determine eligibility for International Development Association (IDA) assistance (i.e., US\$940 in 1987) which in accordance with the guidelines and criteria agreed to by the Committee on Food Aid Policies and Programs (CFA) should be given priority in the allocation of food aid.

Source: FAO food aid in figures. Rome (various issues).

Consumption
and calorie
supply

Table 18. Rice calorie supply as a percentage of total calorie supply, by country and geographical region, 1961-92.

YEAR	WORLD	ASIA	Afghanistan	Bangladesh	Cambodia	China	India	Indonesia	Iran	Iraq	Japan
1961	20	37	7	79	81	31	35	48	9	8	47
1962	21	37	7	79	80	33	35	46	11	8	46
1963	21	38	8	78	81	36	33	47	13	8	45
1964	22	39	8	77	79	38	35	45	13	8	44
1965	22	38	8	77	76	37	36	47	13	8	43
1966	21	37	8	76	80	37	30	48	13	9	40
1967	21	36	8	73	78	36	29	48	12	9	38
1968	22	37	8	76	80	37	33	49	11	9	37
1969	22	37	8	73	79	36	33	55	11	9	36
1970	23	38	8	75	81	39	32	57	12	9	35
1971	23	39	8	73	76	39	34	57	11	9	34
1972	23	38	8	73	77	39	34	56	12	9	33
1973	22	37	8	67	79	39	30	54	11	9	33
1974	23	38	8	72	79	38	34	54	13	9	33
1975	22	37	8	71	76	38	29	57	13	8	33
1976	23	38	7	73	68	39	34	58	13	9	32
1977	22	37	7	75	66	38	30	57	16	11	30
1978	22	37	7	72	70	37	32	57	13	10	29
1979	23	37	8	74	71	38	33	58	13	12	29
1980	22	36	8	71	81	36	30	58	11	12	28
1981	23	37	8	73	79	37	33	57	13	11	28
1982	23	37	7	72	80	38	33	58	12	11	27
1983	23	36	7	71	83	38	28	57	12	11	27
1984	23	36	7	72	84	38	31	57	11	12	26
1985	23	36	7	68	83	38	31	59	12	12	26
1986	23	37	8	73	84	37	34	57	12	12	26
1987	23	36	7	72	82	37	33	58	13	12	25
1988	22	35	8	68	83	36	30	56	9	12	24
1989	23	35	7	70	86	36	32	57	12	12	24
1990	23	36	8	75	83	35	34	58	12	12	24
1991	23	35	8	76	83	36	33	57	11	13	24
1992	23	35	11	74	80	35	31	56	14	17	24

Korea DPR	Korea Rep	Lao PDR	Malay- sia	Myanmar	Nepal	Pakis- tan	Philip- pines	Sri Lanka	Thai- land	Viet- nam	YEAR
34	49	78	50	71	38	10	47	47	70	72	1961
40	51	78	50	70	38	9	46	47	70	74	1962
39	53	78	50	69	37	7	45	46	70	72	1963
39	51	82	48	69	38	9	46	44	72	74	1964
38	47	79	47	72	38	9	46	44	70	72	1965
35	47	78	47	71	37	7	44	43	68	72	1966
35	49	79	46	73	39	9	43	41	69	73	1967
38	45	76	47	72	40	14	41	41	70	69	1968
34	43	77	46	73	39	14	41	41	70	68	1969
36	48	78	46	74	39	13	43	42	70	70	1970
38	45	75	47	74	38	14	44	46	70	69	1971
40	43	76	46	75	38	14	44	41	70	72	1972
37	42	76	46	76	38	10	45	42	68	71	1973
37	44	77	45	76	38	10	44	45	68	71	1974
40	42	76	45	77	38	13	44	42	68	70	1975
42	43	74	45	77	41	11	42	42	67	69	1976
43	48	71	43	76	43	11	40	44	65	62	1977
44	47	70	41	76	42	12	39	40	65	58	1978
45	45	71	40	77	43	11	40	38	65	60	1979
45	48	72	38	76	42	10	41	43	64	63	1980
44	44	71	39	76	42	11	42	45	63	62	1981
45	44	68	38	74	40	12	43	45	64	70	1982
46	44	67	37	71	40	11	39	43	63	69	1983
45	43	71	34	71	42	9	43	43	61	70	1984
45	42	70	34	71	42	9	44	43	61	70	1985
43	41	71	34	70	40	9	44	44	60	69	1986
42	39	68	32	72	43	7	42	43	61	67	1987
40	38	60	30	73	43	7	41	43	59	69	1988
43	38	68	32	78	41	8	41	41	56	69	1989
42	37	66	32	78	41	8	40	44	55	69	1990
35	37	62	31	77	36	7	39	41	55	69	1991
38	35	67	33	77	35	5	40	41	56	70	1992

Table 18. Continued

YEAR	SOUTH AMERICA	Argentina	Brazil	Colombia	Ecuador	Guyana	Peru	Sri-lankam	Uruguay
1961	11	1	17	9	8	25	9	28	2
1962	11	1	17	9	8	27	10	28	2
1963	11	1	18	9	8	28	7	28	2
1964	11	1	18	9	8	25	11	36	2
1965	11	2	17	10	8	26	11	34	2
1966	11	1	18	11	8	25	9	33	2
1967	11	1	17	11	9	25	8	34	2
1968	11	1	16	11	9	26	9	34	2
1969	11	2	16	10	8	24	14	34	2
1970	11	2	16	11	8	30	12	34	2
1971	11	1	16	12	8	31	12	35	2
1972	11	2	16	13	8	28	10	35	2
1973	11	2	15	13	9	26	9	36	2
1974	11	2	15	15	8	31	9	37	2
1975	11	2	15	15	8	30	12	35	2
1976	11	1	16	14	8	30	11	35	2
1977	11	0.40	16	14	8	30	12	35	3
1978	11	1	16	14	9	30	10	31	3
1979	11	1	15	14	10	32	15	28	2
1980	11	1	15	14	10	32	13	27	3
1981	11	1	16	14	10	32	15	25	3
1982	12	2	15	15	10	46	15	24	3
1983	12	1	16	15	9	49	15	23	4
1984	12	2	16	15	10	51	20	30	3
1985	12	1	15	15	10	53	16	30	4
1986	11	1	15	15	11	45	14	30	4
1987	12	2	16	14	14	29	16	30	4
1988	12	2	16	14	17	29	18	27	6
1989	13	2	15	15	16	31	22	20	6
1990	12	2	15	13	16	33	17	25	4
1991	12	1	15	13	14	33	19	34	6
1992	12	2	15	11	17	31	21	31	3

Vene- zuela	N&C America	Costa Rica	Cuba	Dominican Rep	Mexico	Panama	USA	YEAR
2	2	12	19	13	1	26	1	1961
2	2	12	19	11	1	26	1	1962
3	2	13	17	15	2	25	1	1963
3	2	14	19	15	1	26	1	1964
3	2	16	16	16	2	25	1	1965
4	2	15	10	15	2	27	1	1966
4	2	14	10	14	2	28	1	1967
4	2	14	11	14	2	24	1	1968
4	2	14	14	13	2	28	1	1969
4	2	14	18	14	2	28	1	1970
4	2	15	19	14	2	25	1	1971
4	2	14	17	15	2	22	1	1972
4	2	13	16	16	2	22	1	1973
4	2	14	19	18	2	28	1	1974
4	2	15	17	19	2	30	1	1975
4	2	15	16	20	2	20	1	1976
4	2	14	15	19	2	24	1	1977
4	2	14	15	20	2	19	1	1978
5	2	15	15	21	2	20	1	1979
7	2	18	17	21	2	20	1	1980
5	2	15	15	21	2	22	1	1981
5	3	13	16	22	1	18	2	1982
6	2	17	16	22	2	22	1	1983
7	2	16	15	21	2	22	1	1984
7	2	15	16	20	2	22	1	1985
3	2	15	16	22	2	25	1	1986
5	2	12	15	21	1	15	2	1987
5	3	18	14	20	2	23	2	1988
3	3	15	16	20	1	20	2	1989
5	3	15	14	20	1	20	2	1990
7	3	13	14	19	1	19	2	1991
6	3	20	14	19	1	26	2	1992

Table 18. Continued

YEAR	AFRICA	Côte d'Ivoire	Egypt	Guinea	Liberia	Mada-gascar	Mali	Nigeria	Sierra Leone	Tanzania, United Rep
1961	5	12	13	19	35	50	7	1	33	3
1962	5	13	12	17	36	50	9	1	34	4
1963	5	14	12	27	38	51	9	1	39	6
1964	5	16	13	20	40	51	9	1	36	4
1965	5	16	13	26	38	50	8	1	40	2
1966	5	16	12	22	40	49	9	1	43	4
1967	5	17	12	19	38	50	8	1	44	4
1968	5	17	12	24	40	50	9	2	45	3
1969	5	17	12	24	37	50	8	2	40	3
1970	5	16	12	24	42	51	8	1	47	3
1971	5	17	13	22	44	52	9	1	43	4
1972	5	18	13	24	43	52	12	2	42	4
1973	5	16	13	23	45	53	10	2	46	6
1974	5	15	12	26	43	52	11	2	48	6
1975	5	13	12	26	43	51	10	2	44	6
1976	5	14	12	24	41	50	9	2	47	5
1977	6	17	12	26	44	52	10	4	47	6
1978	6	17	11	26	44	49	9	5	48	7
1979	6	20	11	25	44	50	12	6	53	4
1980	6	21	11	26	47	50	16	6	46	6
1981	6	22	10	29	48	50	8	8	45	3
1982	7	21	10	30	48	51	10	8	46	7
1983	7	23	10	30	45	51	10	8	44	6
1984	6	19	10	24	50	51	14	7	40	5
1985	6	21	9	25	45	50	11	6	47	6
1986	6	22	9	25	44	48	13	6	42	9
1987	6	21	9	27	43	50	10	7	45	8
1988	6	22	9	29	40	48	11	6	44	7
1989	7	20	9	30	46	49	10	8	44	8
1990	7	22	9	32	43	49	11	9	47	8
1991	7	20	10	33	45	49	13	8	48	7
1992	7	22	10	37	40	48	14	10	40	6

Source of basic data: FAO AGROSTAT 1994, FAO, Rome.

Zaire	Europe	Italy	Portugal	Spain	Former USSR	Oceania	Australia	YEAR
2	1	2	5	2	0.2	2	1	1961
2	1	2	5	2	1	1	1	1962
2	1	2	5	2	1	2	1	1963
1	1	2	5	2	1	1	1	1964
1	1	2	5	2	1	2	1	1965
2	1	1	5	2	1	2	1	1966
2	1	1	5	2	1	2	1	1967
3	1	1	4	2	1	2	1	1968
2	1	1	5	2	1	2	1	1969
3	1	1	5	2	1	2	1	1970
3	1	1	4	2	1	2	1	1971
3	1	1	5	2	1	2	1	1972
3	1	1	5	2	1	2	1	1973
3	1	1	5	2	1	2	1	1974
3	1	1	5	2	2	2	1	1975
3	1	1	5	2	2	2	1	1976
3	1	1	5	2	2	2	1	1977
3	1	1	5	2	2	2	1	1978
3	1	1	6	2	2	3	1	1979
3	1	1	5	2	2	3	1	1980
3	1	1	5	2	2	3	1	1981
3	1	1	5	1	2	3	1	1982
3	1	2	4	1	2	3	1	1983
3	1	1	5	1	2	3	1	1984
3	1	1	6	2	2	3	1	1985
4	1	1	6	2	2	4	1	1986
4	1	1	6	2	2	3	1	1987
4	1	1	5	2	2	4	2	1988
4	1	1	5	2	2	5	2	1989
4	1	1	4	2	2	4	2	1990
3	1	1	4	1	2	5	2	1991
3	1	1	4	2	2	5	2	1992

Table 19. Rice supply/utilization balances (000 t milled rice),
by country and geographical region, selected years.

REGION/ COUNTRY	Domestic supply					SUPPLY ^d
	Production ^a	Stock changes ^b	Exports	Imports	Net trade ^c	
WORLD						
1964-66	163942	-1000	7649	7170	480	164462
1969-71	195593	2064	7618	7026	592	192937
1974-76	218368	1551	7624	6993	631	216187
1979-81	249233	-1403	11570	10668	902	249734
1984-86	296279	2927	11773	10668	1104	292247
1989-91	327270	-533	12792	11457	1335	326467
ASIA						
1964-66	150845	-1330	5368	5090	277	151897
1969-71	180158	1986	4570	4880	-310	178483
1974-76	199703	456	4582	4373	209	199039
1979-81	227979	-2170	7312	5556	1756	228392
1984-86	273685	2156	7871	4455	3416	268113
1989-91	301511	48	8425	4497	3928	297535
Afghanistan						
1964-66	232	.. ⁱ	-	-	-	232
1969-71	237	-	-	1	-1	238
1974-76	275	-	-	-	-	275
1979-81	263	-	-	14	-14	276
1984-86	209	-	-	1	-1	210
1989-91	209	-	-	3	-3	212
Bangladesh						
1964-66	9689	-38	-	237	-237	9965
1969-71	10482	-136	-	346	-346	10964
1974-76	11344	388	-	250	-250	11207
1979-81	12754	120	-	209	-209	12843
1984-86	14281	1	-	283	-283	14563
1989-91	17099	11	-	149	-149	17236
Cambodia						
1964-66	1613	-	373	-	373	1240
1969-71	1912	-	99	6	93	1456
1974-76	571	-	-	92	-92	961
1979-81	791	-	-	155	-155	946
1984-86	1091	-	-	77	-77	1268
1989-91	1600	-	-	28	-28	1627
China						
1964-66	58057	-	1322	89	1233	56827
1969-71	69529	-	1497	5	1493	68023
1974-76	81298	-	1875	96	1779	79410

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^e	Waste ^f	Processed ^g	Food ^h	Other Uses		
WORLD						
7083	7819	1101	146298	775	47.6	1964-66
8070	9380	1387	170465	924	49.8	1969-71
8590	10503	1571	191256	1114	50.5	1974-76
9025	12521	2542	221433	260	53.4	1979-81
9377	14942	2784	258776	352	57.0	1984-86
10429	16797	3204	288270	733	58.0	1989-91
ASIA						
6468	6722	839	136046	618	73.3	1964-66
7399	8103	1049	158709	752	75.7	1969-71
7785	9011	1171	177412	873	75.6	1974-76
8087	10690	2010	203981	88	79.1	1979-81
8491	13040	2127	238782	115	84.2	1984-86
9499	14338	2372	264508	200	85.1	1989-91
Afghanistan						
9	12	-	211	-	17.5	1964-66
8	12	-	218	-	16.4	1969-71
9	14	-	253	-	16.4	1974-76
7	13	-	256	-	16.0	1979-81
6	10	-	193	-	13.2	1984-86
7	10	-	194	-	12.2	1989-91
Bangladesh						
479	484	-	9001	-	154.3	1964-66
488	524	-	9953	-	149.3	1969-71
511	567	-	10128	-	132.2	1974-76
530	638	-	11676	-	132.4	1979-81
529	714	-	13319	-	132.1	1984-86
520	855	-	15857	5	139.4	1989-91
Cambodia						
12	81	-	1147	-	186.6	1964-66
11	96	-	1349	-	195.0	1969-71
5	29	-	927	-	130.7	1974-76
9	40	-	898	-	137.6	1979-81
8	55	-	1205	-	164.4	1984-86
11	80	-	1537	-	184.6	1989-91
China						
2715	2740	54	50499	562	69.2	1964-66
3054	3290	71	60244	677	72.4	1969-71
3204	3830	78	70365	793	75.9	1974-76

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Production ^a	Stock changes ^b	Exports	Imports	Net trade ^c	
India						
1964-66	31793	-	2	910	-907	35201
1969-71	39839	-	19	604	-585	39783
1974-76	41416	-	31	254	-223	41703
1979-81	47250	-	563	19	544	48779
1984-86	57914	-	243	182	61	57678
1989-91	70224	-	508	197	311	69270
Indonesia						
1964-66	8224	-44	-	438	-438	8706
1969-71	12128	-199	-	580	-580	12907
1974-76	14389	-286	-	893	-893	15568
1979-81	18740	-28	3	1274	-1271	20039
1984-86	24694	984	127	143	-16	23726
1989-91	28433	191	35	164	-129	28371
Iran						
1964-66	643	30	5	23	-18	631
1969-71	660	8	-	22	-21	672
1974-76	910	30	1	234	-233	1113
1979-81	883	11	-	367	-367	1240
1984-86	1065	73	-	433	-433	1426
1989-91	1308	118	-	535	-535	1725
Iraq						
1964-66	115	-	-	31	-31	146
1969-71	170	8	1	32	-31	193
1974-76	62	15	-	174	-174	221
1979-81	103	31	-	343	-343	415
1984-86	84	-	-	499	-499	583
1989-91	137	-82	1	375	-374	593
Japan						
1964-66	10361	439	-	742	-742	10663
1969-71	10318	-446	531	54	476	10287
1974-76	10214	327	89	38	51	9836
1979-81	8442	-980	586	34	552	8870
1984-86	9292	703	30	60	-30	8618
1989-91	8041	-278	-	19	-19	8337
Korea DPR						
1964-66	1255	-8	35	-	35	1227
1969-71	1516	-	88	-	88	1428
1974-76	2305	-	216	-	216	2088

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^a	Waste ^f	Processed ^g	Food ^h	Other Uses		
India						
1935	1015	1	32120	2	64.9	1964-66
2429	1266	2	35925	2	64.7	1969-71
2534	1310	2	37688	2	60.7	1974-76
2884	1491	2	44211	2	64.2	1979-81
3312	1829	2	52303	3	68.2	1984-86
4299	2216	2	62467	3	73.8	1989-91
Indonesia						
119	412	41	7995	-	74.7	1964-66
176	707	60	11722	-	97.3	1969-71
161	839	73	14207	-	104.7	1974-76
200	1318	92	18094	-	119.8	1979-81
251	1728	113	21140	-	126.3	1984-86
266	2144	133	25261	-	137.2	1989-91
Iran						
33	13	1	584	-	23.6	1964-66
33	13	1	626	-	22.0	1969-71
38	18	2	1055	-	31.6	1974-76
41	17	2	1179	-	30.0	1979-81
44	21	2	1358	-	27.8	1984-86
51	26	2	1645	-	28.3	1989-91
Iraq						
8	5	-	133	-	16.6	1964-66
8	7	-	177	-	18.9	1969-71
3	4	-	213	-	19.3	1974-76
4	8	-	404	-	30.4	1979-81
4	8	-	571	-	35.9	1984-86
6	10	-	578	-	31.0	1989-91
Japan						
84	191	508	9861	-	99.8	1964-66
82	182	568	8965	-	85.9	1969-71
79	182	615	8943	-	80.2	1974-76
72	165	553	8068	-	69.1	1979-81
76	161	481	7874	-	65.2	1984-86
57	154	523	7580	1	61.3	1989-91
Korea DPR						
22	79	-	1001	-	80.7	1964-66
26	95	-	1155	-	78.9	1969-71
35	144	-	1678	-	101.3	1974-76
45	188	-	2258	-	123.7	1979-81
56	202	9	2507	-	126.0	1984-86
53	194	5	2433	-	111.9	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Production ^a	Stock changes ^b	Exports	Imports	Net trade ^c	
Korea Rep						
1964-66	3308	143	18	4	14	3151
1969-71	3532	323	-	651	-651	3861
1974-76	4206	-101	-	275	-275	4581
1979-81	4297	191	-	996	-996	5101
1984-86	5006	-15	50	-	50	4971
1989-91	4883	-25	1	2	-1	4908
Lao PDR						
1964-66	471	-	-	103	-103	574
1969-71	551	-	-	63	-63	614
1974-76	523	-	-	68	-68	591
1979-81	649	-	-	93	-93	743
1984-86	880	-	-	20	-20	900
1989-91	870	-	-	36	-36	906
Malaysia						
1964-66	759	-	15	395	-380	1108
1969-71	1075	-	1	293	-292	1304
1974-76	1286	-	-	226	-226	1495
1979-81	1301	-	-	237	-237	1522
1984-86	1092	-	4	346	-342	1485
1989-91	1255	-	-	367	-366	1626
Myanmar						
1964-66	4901	69	1241	-	1241	3592
1969-71	5138	-38	641	-	641	4536
1974-76	5727	-21	361	-	361	5387
1979-81	8009	583	614	-	614	6812
1984-86	9020	358	576	-	576	8086
1989-91	8656	-747	178	-	178	9224
Nepal						
1964-66	1355	21	300	-	300	1034
1969-71	1455	37	239	-	239	1179
1974-76	1572	202	86	-	86	1284
1979-81	1497	1	27	8	19	1476
1984-86	1666	-68	33	8	25	1709
1989-91	2137	-10	-	7	-7	2153
Pakistan						
1964-66	1277	-	278	-	278	999
1969-71	2174	-	229	-	229	1946
1974-76	2430	-	589	-	589	1840
1979-81	3095	-	1055	-	1055	2041
1984-86	3080	-	1041	-	1041	2040
1989-91	3081	-	884	-	884	2198

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^a	Waste ^f	Processed ^g	Food ^h	Other Uses		
Korea Rep						
31	99	99	2921	-	102.4	1964-66
32	101	189	3539	-	110.8	1969-71
31	128	235	4188	-	118.7	1974-76
29	138	218	4716	-	123.8	1979-81
28	135	134	4674	-	114.5	1984-86
28	136	104	4640	-	107.0	1989-91
Lao PDR						
33	24	8	452	10	186.1	1964-66
24	28	13	481	13	177.4	1969-71
20	27	19	461	13	152.6	1974-76
27	40	20	579	13	180.4	1979-81
25	80	29	664	14	184.7	1984-86
23	89	34	657	16	156.8	1989-91
Malaysia						
11	23	9	1039	4	109.4	1964-66
14	32	11	1212	3	111.6	1969-71
14	39	13	1389	2	113.3	1974-76
13	39	12	1416	3	102.9	1979-81
12	33	12	1393	2	88.8	1984-86
12	38	14	1523	2	85.1	1989-91
Myanmar						
180	245	-	3167	-	131.0	1964-66
179	257	-	4023	-	148.4	1969-71
186	286	-	4790	-	157.4	1974-76
229	400	-	5856	-	173.1	1979-81
240	451	-	6894	-	183.6	1984-86
239	433	82	8061	-	192.7	1989-91
Nepal						
38	163	2	798	-	77.1	1964-66
41	173	2	926	-	80.5	1969-71
44	168	2	1030	-	79.1	1974-76
44	141	2	1247	-	83.9	1979-81
48	172	3	1441	-	84.1	1984-86
50	258	4	1783	-	91.2	1989-91
Pakistan						
86	38	6	869	-	15.2	1964-66
90	65	10	1780	-	27.1	1969-71
109	73	11	1648	-	22.0	1974-76
119	93	15	1814	-	21.3	1979-81
120	92	14	1814	-	18.0	1984-86
124	92	14	1966	-	16.7	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Production ^a	Stock changes ^b	Exports	Imports	Net trade ^c	
Philippines						
1964-66	2569	-45	-	329	-329	2943
1969-71	3457	327	1	126	-125	3256
1974-76	3859	-121	-	120	-120	4100
1979-81	4910	2	165	-	165	4742
1984-86	5467	208	1	236	-235	5494
1989-91	6010	-16	8	255	-246	6273
Sri Lanka						
1964-66	596	85	-	555	-555	1066
1969-71	927	58	-	357	-357	1225
1974-76	847	-61	-	354	-354	1262
1979-81	1327	23	-	166	-166	1470
1984-86	1619	53	-	109	-109	1674
1989-91	1477	-21	-	173	-173	1670
Thailand						
1964-66	7661	473	1687	-	1687	5501
1969-71	8662	923	1177	-	1177	6562
1974-76	9243	384	1286	-	1286	7574
1979-81	10753	-147	2798	-	2798	8101
1984-86	12472	-82	4259	-	4259	8294
1989-91	12294	-1037	4758	-	4758	8573
Turkey						
1964-66	134	-	1	3	-2	136
1969-71	163	-	-	9	-9	172
1974-76	161	-	-	35	-35	196
1979-81	199	-	-	18	-18	217
1984-86	174	-	-	82	-82	256
1989-91	160	-	2	174	-172	333
Vietnam						
1964-66	5816	-	24	534	-510	6326
1969-71	6218	-	14	969	-954	7172
1974-76	7053	-	9	457	-448	7502
1979-81	7484	-	54	144	-90	7574
1984-86	10009	-	93	354	-261	10271
1989-91	12219	-	1267	20	1247	10973

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^a	Waste ^f	Processed ^g	Food ^h	Other Uses		
Philippines						
141	87	5	2633	1	82.2	1964-66
144	116	7	2889	1	76.9	1969-71
171	129	8	3675	2	85.4	1974-76
165	166	5	4263	-	87.5	1979-81
149	186	11	4987	2	90.0	1984-86
162	92	12	5531	6	88.6	1989-91
Sri Lanka						
49	11	-	1006	-	90.1	1964-66
56	21	-	1147	-	91.7	1969-71
59	22	-	1182	-	86.9	1974-76
56	50	-	1361	-	91.8	1979-81
60	91	-	1523	-	94.6	1984-86
52	101	-	1516	-	88.0	1989-91
Thailand						
262	583	33	4305	-	140.6	1964-66
285	656	33	5230	-	146.3	1969-71
336	698	35	6062	-	146.6	1974-76
365	819	46	6365	-	136.3	1979-81
373	953	47	6478	-	126.6	1984-86
370	969	60	6858	-	125.4	1989-91
Turkey						
8	7	-	122	-	3.9	1964-66
10	8	-	153	-	4.3	1969-71
7	5	-	183	-	4.6	1974-76
8	8	-	200	-	4.5	1979-81
8	7	-	241	-	4.8	1984-86
7	6	-	319	-	5.7	1989-91
Vietnam						
212	404	68	5574	29	145.4	1964-66
212	442	82	6327	33	148.0	1969-71
232	489	76	6542	34	136.3	1974-76
250	523	87	6521	34	121.4	1979-81
267	778	107	8599	45	143.5	1984-86
254	749	121	9371	55	140.5	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Production ^a	Stock Changes ^b	Exports	Imports	Net trade ^c	
SOUTH AMERICA						
1964-66	5584	91	355	72	283	5211
1969-71	6083	-64	358	51	307	5840
1974-76	7587	368	402	105	296	6923
1979-81	8449	327	498	534	-36	8159
1984-86	9306	213	499	667	-168	9262
1989-91	9763	-364	546	741	-195	10322
Argentina						
1964-66	132	-	35	-	35	97
1969-71	220	-	86	-	86	133
1974-76	206	-	62	-	62	144
1979-81	182	-	88	5	84	99
1984-86	261	-	108	-	108	152
1989-91	269	-	80	3	77	192
Brazil						
1964-66	4167	31	148	-	148	3988
1969-71	4339	-31	93	1	92	4278
1974-76	5134	283	42	22	19	4832
1979-81	5408	155	14	338	-324	5577
1984-86	6005	435	3	541	-538	6108
1989-91	5905	-342	4	476	-472	6719
Colombia						
1964-66	412	-	-	1	-1	413
1969-71	497	-	7	-	7	490
1974-76	987	-	47	-	47	940
1979-81	1160	-	29	6	24	1137
1984-86	1051	-	23	-	23	1028
1989-91	1258	-	54	-	54	1204
Ecuador						
1964-66	165	-	11	2	9	157
1969-71	148	-	-	1	-1	149
1974-76	208	-	8	-	8	200
1979-81	239	-	-	20	-20	259
1984-86	298	-	-	19	-19	317
1989-91	540	-	8	22	-14	554
Guyana						
1964-66	174	26	92	-	92	56
1969-71	124	-5	69	-	69	60
1974-76	158	7	76	-	76	75
1979-81	169	3	81	-	81	84
1984-86	174	-14	39	-	39	148
1989-91	133	-3	50	-	50	86

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^a	Waste ^f	Processed ^g	Food ^h	Other uses		
SOUTH AMERICA						
287	579	38	4291	-	25.4	1964-66
303	613	39	4860	-	25.4	1969-71
378	735	38	5628	-	26.2	1974-76
408	818	38	6709	1	27.9	1979-81
375	921	83	7692	1	28.8	1984-86
338	986	97	8755	1	29.8	1989-91
Argentina						
5	9	-	83	-	3.7	1964-66
7	15	-	111	-	4.7	1969-71
6	13	-	125	-	4.8	1974-76
7	10	-	82	-	2.9	1979-81
11	17	-	125	-	4.1	1984-86
12	18	-	163	-	5.1	1989-91
Brazil						
207	490	18	3273	-	38.8	1964-66
229	510	10	3528	-	36.8	1969-71
288	602	12	3930	-	36.3	1974-76
295	641	8	4633	-	38.2	1979-81
262	724	8	5113	-	37.7	1984-86
212	718	16	5772	-	38.8	1989-91
Colombia						
32	4	6	367	-	19.8	1964-66
24	5	5	455	-	21.3	1969-71
34	10	4	734	-	30.8	1974-76
42	12	2	851	-	32.1	1979-81
33	11	2	1003	-	34.0	1984-86
44	13	-	1040	-	32.2	1989-91
Ecuador						
7	42	-	86	-	16.6	1964-66
5	38	-	105	-	17.3	1969-71
8	53	-	121	-	17.2	1974-76
8	62	-	177	-	21.7	1979-81
14	77	-	226	-	24.2	1984-86
19	139	-	396	-	37.6	1989-91
Guyana						
9	-	-	36	-	56.4	1964-66
6	-	-	45	-	62.9	1969-71
8	-	-	55	-	74.5	1974-76
9	-	-	62	-	81.3	1979-81
5	1	-	96	-	122.4	1984-86
5	-	-	61	-	76.6	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Production ^a	Stock Changes ^b	Exports	Imports	Net trade ^c	
Peru						
1964-66	215	-	-	43	-43	258
1969-71	343	-26	-	11	-11	380
1974-76	339	17	2	46	-44	366
1979-81	372	-	-	146	-146	518
1984-86	580	-	-	80	-80	659
1989-91	607	-29	-	190	-190	826
Surinam						
1964-66	61	-	18	-	18	42
1969-71	83	10	25	-	25	48
1974-76	108	-2	56	-	56	54
1979-81	164	-3	108	-	108	59
1984-86	190	6	113	-	113	72
1989-91	147	9	67	-	67	70
Uruguay						
1964-66	47	1	28	-	28	18
1969-71	83	8	54	-	54	21
1974-76	118	18	74	-	74	26
1979-81	183	-14	164	-	164	32
1984-86	244	-8	210	-	210	42
1989-91	291	-24	262	4	258	57
Venezuela						
1964-66	118	4	23	2	21	94
1969-71	131	-16	23	3	20	128
1974-76	183	-4	33	1	33	154
1979-81	404	87	8	-	8	309
1984-86	254	-92	2	1	1	345
1989-91	313	9	-	4	-4	308
N&C AMERICA						
1964-66	2891	174	1239	433	806	1910
1969-71	3395	12	1471	432	1039	2343
1974-76	4626	531	1734	488	1246	2849
1979-81	5792	294	2488	549	1939	3559
1984-86	5462	318	1956	691	1264	3880
1989-91	5836	-424	2280	993	1287	4973
Costa Rica						
1964-66	54	3	-	4	-4	55
1969-71	56	-3	2	8	-6	65
1974-76	100	11	7	-	7	82
1979-81	142	-10	46	-	46	106
1984-86	134	-14	27	-	27	120
1989-91	120	-	-	12	-12	132

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^a	Waste ^f	Processed ^g	Food ^h	Other uses		
Peru						
8	7	14	228	-	19.9	1964-66
12	11	23	334	-	25.4	1969-71
12	10	22	321	-	21.2	1974-76
14	12	28	464	-	26.8	1979-81
18	18	43	581	-	30.0	1984-86
16	20	58	732	-	34.0	1989-91
Surinam						
3	8	-	25	-	77.2	1964-66
3	12	-	29	-	78.5	1969-71
4	15	-	30	-	81.4	1974-76
6	23	1	24	-	67.3	1979-81
7	27	1	31	-	80.1	1984-86
4	20	2	28	-	67.1	1989-91
Uruguay						
3	1	-	14	-	5.3	1964-66
3	2	-	17	-	6.0	1969-71
5	2	-	20	-	6.9	1974-76
6	4	-	23	-	7.8	1979-81
7	5	-	29	-	9.7	1984-86
9	6	-	42	-	13.7	1989-91
Venezuela						
8	15	-	72	-	8.0	1964-66
7	16	-	105	-	9.9	1969-71
8	22	-	124	-	9.8	1974-76
16	48	-	223	-	14.9	1979-81
11	33	26	243	-	14.3	1984-86
9	39	8	252	-	13.0	1989-91
N&CAMERICA						
102	81	145	1470	109	5.1	1964-66
101	121	209	1779	123	5.6	1969-71
137	158	268	2098	174	6.1	1974-76
170	337	361	2564	112	7.0	1979-81
125	244	455	2885	152	7.3	1984-86
138	516	576	3579	147	8.5	1989-91
Costa Rica						
2	2	-	51	-	34.6	1964-66
2	2	-	62	-	35.6	1969-71
4	3	-	76	-	38.6	1974-76
3	4	-	99	-	43.2	1979-81
3	4	-	113	-	42.8	1984-86
2	4	-	126	-	41.4	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Production ^a	Stock Changes ^b	Exports	Imports	Net trade ^c	
Cuba						
1964-66	51	-	-	232	-232	283
1969-71	201	-	-	216	-216	417
1974-76	282	-	-	213	-213	495
1979-81	288	-	-	191	-191	480
1984-86	349	-	-	200	-200	549
1989-91	283	-	-	240	-240	523
Dominican Rep						
1964-66	103	-	-	14	-14	118
1969-71	130	-	-	-	-0	131
1974-76	167	-	-	57	-57	224
1979-81	248	-	-	32	-32	280
1984-86	310	-	-	34	-34	344
1989-91	287	-	-	30	-30	317
Mexico						
1964-66	216	25	-	9	-9	200
1969-71	247	-4	-	7	-7	258
1974-76	353	50	1	21	-20	323
1979-81	334	36	1	63	-62	360
1984-86	388	48	-	112	-112	452
1989-91	268	-	-	136	-136	404
Panama						
1964-66	89	6	1	1	-1	84
1969-71	91	-3	-	7	-7	102
1974-76	107	-3	-	-	-	110
1979-81	111	8	4	-	4	99
1984-86	114	-16	-	-	-	130
1989-91	131	15	1	-	1	115
USA						
1964-66	2247	122	1231	11	1220	905
1969-71	2505	30	1451	24	1427	1049
1974-76	3416	456	1722	2	1720	1239
1979-81	4416	250	2437	4	2433	1733
1984-86	3901	288	1926	50	1875	1738
1989-91	4485	-427	2263	131	2132	2780

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^e	Waste ^f	Processed ^g	Food ^h	Other uses		
Cuba						
2	11	-	268	-	34.7	1964-66
8	22	-	378	-	44.2	1969-71
7	28	-	446	-	48.0	1974-76
7	28	-	431	-	44.5	1979-81
7	33	-	491	-	48.7	1984-86
6	29	-	474	-	44.7	1989-91
Dominican Rep						
5	3	-	106	-	27.9	1964-66
5	4	-	121	-	27.3	1969-71
7	5	-	206	-	40.8	1974-76
7	7	3	265	-	46.5	1979-81
7	9	1	316	-	49.3	1984-86
7	9	-	313	-	43.7	1989-91
Mexico						
6	11	18	166	-	3.8	1964-66
6	12	16	223	-	4.4	1969-71
7	18	15	284	-	4.8	1974-76
7	17	14	323	-	4.8	1979-81
8	19	32	392	-	5.2	1984-86
4	14	69	316	1	3.8	1989-91
Panama						
6	5	-	73	-	55.0	1964-66
4	5	-	93	-	61.0	1969-71
2	6	-	102	-	58.6	1974-76
2	8	-	90	-	46.0	1979-81
4	5	-	122	-	55.7	1984-86
5	6	-	105	-	43.3	1989-91
USA						
75	38	125	561	106	2.9	1964-66
72	61	190	606	119	3.0	1969-71
103	81	245	639	171	3.0	1974-76
137	251	337	898	109	3.9	1979-81
89	151	413	937	148	3.9	1984-86
106	432	493	1614	135	6.4	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					
	Production ^a	Stock changes ^b	Exports	Imports	Net trade ^c	Supply ^d
AFRICA						
1964-66	3589	-29	412	720	-308	3927
1969-71	4636	39	675	780	-105	4702
1974-76	5055	166	174	876	-701	5590
1979-81	5392	171	106	2434	-2328	7549
1984-86	6007	110	49	2824	-2775	8672
1989-91	8222	178	96	3160	-3064	11107
Côte d'Ivoire						
1964-66	163	25	-	77	-77	215
1969-71	212	7	-	81	-81	287
1974-76	288	-1	13	26	-13	301
1979-81	284	-19	1	277	-276	579
1984-86	341	30	1	360	-359	671
1989-91	419	12	-	352	-352	758
Egypt						
1964-66	1162	-124	371	-	371	915
1969-71	1626	-58	599	-	599	1086
1974-76	1471	94	139	-	139	1238
1979-81	1506	20	88	-	88	1398
1984-86	1477	-25	34	2	32	1470
1989-91	1964	27	80	3	77	1860
Guinea						
1964-66	185	5	-	37	-37	217
1969-71	231	1	-	18	-18	247
1974-76	267	2	-	27	-27	292
1979-81	277	36	-	88	-88	329
1984-86	285	21	-	73	-73	337
1989-91	394	31	-	155	-155	518
Liberia						
1964-66	86	3	-	39	-39	122
1969-71	117	8	-	41	-41	150
1974-76	152	3	-	33	-33	182
1979-81	161	4	-	82	-82	238
1984-86	185	0	-	89	-89	274
1989-91	106	-31	-	114	-114	252
Madagascar						
1964-66	1023	32	18	30	-12	1003
1969-71	1201	11	50	40	10	1180
1974-76	1273	10	5	70	-65	1328
1979-81	1302	35	1	142	-140	1407
1984-86	1382	-6	-	143	-143	1530
1989-91	1509	-14	-	55	-55	1577

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^e	Waste ^f	Processed ^g	Food ^h	Other uses		
AFRICA						
187	424	2	3202	8	10.1	1964-66
214	530	2	3813	22	10.5	1969-71
237	587	5	4589	43	11.1	1974-76
308	659	12	6464	13	13.5	1979-81
323	720	12	7520	22	13.6	1984-86
396	941	23	9375	322	14.6	1989-91
Côte d'Ivoire						
19	25	-	171	-	37.8	1964-66
20	34	-	233	-	42.2	1969-71
28	45	-	228	-	33.8	1974-76
24	48	2	504	-	61.3	1979-81
34	53	4	579	-	58.2	1984-86
43	65	8	642	-	53.6	1989-91
Egypt						
34	70	-	807	4	27.5	1964-66
41	96	-	931	18	28.1	1969-71
37	86	-	1079	37	29.7	1974-76
86	87	-	1220	5	29.8	1979-81
88	86	-	1292	5	27.8	1984-86
93	113	-	1476	177	28.1	1989-91
Guinea						
10	43	-	164	-	47.0	1964-66
13	51	-	183	-	47.0	1969-71
15	58	-	219	-	52.8	1974-76
17	61	-	250	-	56.0	1979-81
18	62	-	257	-	51.4	1984-86
23	87	-	407	-	70.6	1989-91
Liberia						
5	8	-	108	-	90.2	1964-66
5	11	-	134	-	96.1	1969-71
6	15	-	160	-	99.5	1974-76
7	17	-	216	-	114.7	1979-81
7	19	-	248	-	112.9	1984-86
5	15	-	232	-	94.0	1989-91
Madagascar						
47	190	-	663	-	110.2	1964-66
51	223	-	785	-	116.4	1969-71
56	238	1	907	-	119.2	1974-76
60	248	1	1006	-	114.4	1979-81
59	264	-	1138	-	111.2	1984-86
59	287	1	1198	-	99.7	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					
	Production ^a	Stock changes ^b	Exports	Imports	Net trade ^c	Supply ^d
Mali						
1964-66	101	-1	2	-	2	101
1969-71	102	10	1	16	-15	107
1974-76	149	35	1	30	-29	144
1979-81	107	-21	-	33	-33	161
1984-86	116	2	-	113	-113	227
1989-91	227	32	-	66	-66	261
Nigeria						
1964-66	137	1	-	1	-1	138
1969-71	223	6	-	1	-1	218
1974-76	301	-17	-	18	-18	336
1979-81	651	120	-	532	-532	1063
1984-86	876	22	3	331	-328	1181
1989-91	1899	182	-	261	-261	1977
Sierra Leone						
1964-66	255	22	-	22	-22	255
1969-71	300	8	-	32	-32	324
1974-76	353	21	-	15	-15	347
1979-81	320	-25	-	73	-73	418
1984-86	308	14	-	74	-74	369
1989-91	303	-17	-	128	-128	448
Tanzania, United Rep						
1964-66	75	-	3	15	-12	87
1969-71	90	-	2	8	-7	97
1974-76	176	-	-	47	-47	223
1979-81	159	-	-	57	-57	215
1984-86	281	-	-	84	-84	365
1989-91	440	-	-	39	-39	479
Zaire						
1964-66	41	-	-	24	-24	65
1969-71	113	-	-	21	-21	134
1974-76	131	-	-	25	-25	156
1979-81	149	-	-	27	-27	176
1984-86	193	-	-	50	-50	243
1989-91	249	-	-	74	-74	324
EUROPE						
1964-66	918	84	217	802	-586	1419
1969-71	1133	68	439	816	-377	1442
1974-76	1127	-1	563	1065	-502	1630
1979-81	1166	-50	852	1461	-610	1825
1984-86	1331	101	1038	1841	-803	2033
1989-91	1425	51	1041	1789	-747	2121

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^e	Waste ^f	Processed ^g	Food ^h	Other uses		
Mali						
11	7	-	83	-	16.8	1964-66
11	7	-	90	-	16.4	1969-71
12	10	-	122	-	19.8	1974-76
9	9	-	142	-	20.9	1979-81
11	10	-	206	-	25.9	1984-86
15	15	-	230	-	24.9	1989-91
Nigeria						
9	13	-	115	-	2.4	1964-66
13	21	-	184	-	3.3	1969-71
11	31	-	294	-	4.4	1974-76
28	69	-	967	-	12.3	1979-81
34	89	-	1058	-	11.5	1984-86
74	190	-	1714	-	15.8	1989-91
Sierra Leone						
21	30	-	205	-	84.1	1964-66
22	37	-	265	-	99.9	1969-71
25	41	-	280	-	95.7	1974-76
25	42	-	350	-	107.6	1979-81
22	39	-	308	-	84.0	1984-86
24	40	-	384	-	92.4	1989-91
Tanzania, United						
6	5	-	77	-	6.5	1964-66
9	5	-	83	-	6.1	1969-71
14	12	-	197	-	12.4	1974-76
16	12	-	188	-	10.2	1979-81
17	20	-	329	-	14.9	1984-86
20	27	-	432	-	16.6	1989-91
Zaire						
3	3	-	59	-	3.3	1964-66
7	8	-	119	-	5.9	1969-71
7	9	-	140	-	6.0	1974-76
8	10	-	158	-	5.9	1979-81
10	14	-	219	-	6.9	1984-86
13	17	-	271	23	7.3	1989-91
EUROPE						
37	11	62	1213	38	2.9	1964-66
49	12	69	1204	27	2.8	1969-71
45	9	72	1402	22	3.1	1974-76
41	11	69	1533	46	3.3	1979-81
50	11	87	1651	60	3.5	1984-86
50	10	115	1684	61	3.5	1989-91

Table 19. Continued

REGION/ COUNTRY	Domestic supply					Supply ^d
	Produc- tion ^a	Stock changes ^b	Exports	Imports	Net trade ^c	
Italy						
1964-66	371	35	72	4	68	267
1969-71	543	33	290	4	286	224
1974-76	613	-25	385	19	366	272
1979-81	627	-44	513	148	365	307
1984-86	691	7	594	207	387	297
1989-91	797	6	526	65	461	330
Portugal						
1964-66	100	1	1	18	-17	116
1969-71	112	7	-	14	-14	120
1974-76	76	4	1	56	-55	128
1979-81	87	15	4	69	-65	137
1984-86	90	-5	1	72	-70	166
1989-91	100	-8	21	57	-36	144
Spain						
1964-66	237	-3	62	-	62	178
1969-71	244	21	48	-	48	175
1974-76	243	8	30	-	30	206
1979-81	275	-5	56	1	55	225
1984-86	296	38	69	41	29	229
1989-91	316	18	176	132	44	254
USSR						
1964-66	347	-	4	285	-281	628
1969-71	750	-	9	319	-310	1060
1974-76	1164	-	56	259	-203	1367
1979-81	1508	-	17	848	-830	2111
1984-86	1551	-	48	332	-284	1998
1989-91	1353	-	38	445	-407	1760
Oceania						
1964-66	115	9	59	52	7	98
1969-71	187	22	106	67	39	126
1974-76	271	31	170	86	84	156
1979-81	456	25	313	133	180	250
1984-86	487	30	360	189	171	287
1989-91	513	-22	403	277	126	409
Australia						
1964-66	104	8	59	1	57	38
1969-71	173	21	106	1	105	47
1974-76	256	32	170	1	169	54
1979-81	436	25	311	1	310	102
1984-86	468	26	360	9	351	91
1989-91	493	-18	403	28	375	137

Domestic utilization					Food/capita milled rice (kg/yr)	REGION/ COUNTRY
Seed ^a	Waste ^f	Processed ^g	Food ^h	Other uses		
Italy						
19	-	12	232	3	4.5	1964-66
25	-	13	180	4	3.4	1969-71
24	-	14	228	5	4.1	1974-76
22	-	9	248	4	4.4	1979-81
25	-	18	231	7	4.0	1984-86
26	-	14	255	7	4.4	1989-91
Portugal						
4	-	-	112	-	12.3	1964-66
5	-	-	115	-	12.7	1969-71
3	-	-	124	-	13.5	1974-76
3	-	-	134	-	13.7	1979-81
3	-	-	163	-	16.4	1984-86
3	-	-	140	-	14.2	1989-91
Spain						
2	-	12	164	-	5.1	1964-66
4	-	13	154	-	4.6	1969-71
4	-	11	192	-	5.4	1974-76
6	-	11	194	13	5.2	1979-81
8	-	13	186	16	4.8	1984-86
10	-	14	204	15	5.2	1989-91
USSR						
36	13	-	579	-	2.5	1964-66
57	25	-	979	-	4.0	1969-71
76	37	-	1254	-	4.9	1974-76
95	52	-	1964	-	7.4	1979-81
95	49	-	1854	-	6.7	1984-86
89	44	-	1628	-	5.6	1989-91
Oceania						
4	2	15	77	1	4.4	1964-66
5	2	18	99	1	5.2	1969-71
8	4	17	126	2	6.0	1974-76
10	6	51	181	2	8.0	1979-81
12	6	21	246	2	10.2	1984-86
8	7	22	369	3	14.1	1989-91
Australia						
3	1	15	20	-	1.7	1964-66
4	2	18	23	-	1.8	1969-71
7	3	16	28	-	2.0	1974-76
9	5	51	37	-	2.5	1979-81
11	5	20	56	-	3.5	1984-86
8	5	20	103	-	6.1	1989-91

Table 19. Continued

^aRelates to the total domestic production whether inside or outside the agricultural sector.

^bA minus (-) sign indicates net decrease in stock.

^cObtained by deducting imports from exports.

^dProduction less net trade and stock changes.

^eIncludes both imported and domestically produced quantities.

^fRelates to losses at all stages between the farm and household level.

^gIncludes quantities used for the manufacture of processed commodities.

^hRelates to amount available for human consumption including the amount used for the manufacture of processed commodities for food purposes.

ⁱ- = magnitude zero.

Source: FAO AGROSTAT 1994, FAO, Rome.

Holding
of stocks

Table 20. Carryover stocks of milled rice (000 t), world and selected Asian countries, 1971-93.

	WORLD	Bangla- desh	China	Hong- kong	India	Indo- nesia	Japan	Korea Rep	Malay- sia	Myan- mar	Pakis- tan	Philip- pines	Sri Lanka	Thai- land
Ownership ^a	G	G	M	G	G	G	G	G+M	G+M	G	G	G+M+F	G	M+F
Reference date	30 Jun		31 Dec	31 Oct	31 Mar	31 Oct	31 Oct	31 Dec	31 Oct	31 Oct	31 Oct	30 Jun	31 Dec	31 Oct
1971	30000	206	...	70	1559	397	5343	394	200	484	255	419	157	1966
1972	24000	68	...	87	997	387	2788	613	254	321	377	755	69	1730
1973	29000	16	...	99	568	198	1340	711	102	321	98	445	55	1238
1974	26000	36	...	74	468	418	795	488	122	321	300	947	107	2145
1975	38000	230	...	68	1188	734	1131	715	30	321	575	962	119	2130
1976	38000	464	...	73	4426	536	2490	906	50	321	391	893	96	2502
1977	41000	138	...	63	4206	579	3408	1076	72	321	116	981	270	1364
1978	45000	342	...	62	5947	460	5184	1218	225	321	315	1156	238	1242
1979	45000	105	...	62	8447	709	5885	752	296	321	281	1540	114	1405
1980	45000	315	18700	67	5456	843	6031	1066	392	321	250	1575	68	900
1981	47000	687	17000	70	3900	1300	3976	1495	357	321	422	1332	135	1732
1982	44000	355	17700	70	3000	2300	2431	1423	408	450	748	1520	214	1426
1983	49000	293	20967	66	1899	911	814	1517	421	450	565	1478	75	634
1984	48122	90	21241	68	3103	1442	114	1261	314	432	400	990	20	659
1985	56100	466	24501	65	5556	2316	80	1432	255	400	714	1066	75	1050
1986	58700	253	19131	65	6575	2109	93	1458	240	200	700	922	156	1438
1987	55300	242	15106	...	5468	1800	1600	...	...	150	700	941	75	1090
1988	45289	644	14557	...	2017	789	1386	...	...	200	450	1231	110	489
1989	46857	329	10384	...	2040	1076	1329	...	...	100	500	1080	108	532
1990	57245	818	10434	...	5320	1448	947	...	...	150	600	1367	51	1937
1991	63809	528	14679	...	6995	1002	1080	...	...	200	400	1821	100	1360
1992	61833	723	12986	...	5830	1120	260	...	...	150	300	1669	52	1781
1993 ^c	58400	364	11565	...	5000	1820	400	...	...	182	150	1625	50	1932

^aF = farmers; G = government agency; M = mills and/or merchants.^b... = data not available.^cForecasts.

Source: FAO food outlook (various issues).

FAO Intergovernmental Group on Rice. Session reports (various issues).

Table 21. Carryover stocks of milled rice (000 t), world and selected importing countries. 1980-93.

YEAR	Importing countries													
	WORLD	Bang-ladesh ^a	Brazil	Côte d'Ivoire	Ecuador	EEC(12) ^a	Indonesia ^a	Japan ^a	Mexico	Nigeria	Peru	Philippines	Saudi Arabia	Sri-lanka ^a
1980	45000	315	... ^b	...	...	...	843	6031	...	...	...	1575	...	68
1981	47000	687	...	...	...	...	1300	3976	...	...	...	1332	...	135
1982	44000	355	...	...	...	...	2300	2431	...	...	...	1520	...	214
1983	49000	293	...	...	...	...	911	814	...	...	...	1478	...	75
1984	48122	90	712	39	12	183	1442	114	77	320	94	990	227	20
1985	56100	466	540	13	14	197	2316	80	144	291	188	1066	158	75
1986	58700	253	1510	116	2	224	2109	931	252	231	79	992	130	156
1987	55300	242	2412	264	62	273	1800	1600	129	103	4	941	101	75
1988	45289	644	2881	65	93	97	789	1386	154	94	200	1231	32	110
1989	46857	329	3168	50	107	108	1076	1329	107	129	140	1080	60	108
1990	57245	818	3012	52	135	85	1448	947	117	99	212	1367	20	51
1991	63809	528	1121	39	163	273	1002	1080	74	118	212	1821	40	100
1992	61833	723	1240	90	162	277	1120	260	133	120	149	1669	155	52
1993 ^c	58400	364	1061	75	78	281	1820	400	99	150	236	1625	108	50

^a Government stocks only.^b ... = data not available.^c Forecasts

Source. FAO Intergovernmental Group on Rice, session reports (various issues).

Table 22. Carryover stocks of milled rice (000 t), selected exporting countries, 1980-93.

YEAR	Argentina	Australia	India ^a	Myanmar ^a	China ^b	Pakistan ^a	Thailand	USA	Uruguay
1980	... ^c	...	5456	321	18700	250	900	...	...
1981	...	...	3900	321	17000	422	1732	...	...
1982	...	...	3000	450	17700	748	1426	...	...
1983	...	...	1899	450	20967	565	634	...	...
1984	162	12	3103	432	21241	400	659	1489	4
1985	283	9	5556	400	24501	714	1050	2054	16
1986	306	79	6575	200	19131	700	1438	2454	8
1987	324	30	5468	150	15106	700	1090	1632	6
1988	20	34	2017	200	14557	450	489	995	41
1989	42	111	2040	100	10384	500	532	867	14
1990	26	90	5320	150	10434	600	1937	866	85
1991	27	84	6995	200	14679	400	1360	776	3
1992	30	24	5830	150	12986	300	1781	861	63
1993	58	48	5000	182	11565	150	1932	1217	57

^a Government stocks only.^b Including Taiwan Province.^c ... = data not available.

World prices

Table 23. Monthly export price (US\$/t free on board) of Thai rice 5% broken, 1961-94.^a

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1961	124	126	134	135	136	138	141	138	137	137	144	152
1962	136	136	141	148	166	163	162	161	159	161	161	157
1963	139	141	141	140	140	145	148	148	148	147	143	140
1964	141	139	133	134	135	136	139	140	141	139	138	137
1965	135	133	133	133	133	129	129	131	143	146	146	149
1966	144	142	146	155	160	160	167	169	171	175	190	159
1967	160	168	186	186	189	202	225	228	242	245	217	218
1968	218	228	228	215	205	198	200	196	193	181	175	179
1969	180	179	186	184	191	198	199	188	187	185	186	179
1970	154	151	143	139	139	142	143	146	142	142	142	138
1971	139	125	115	113	124	127	129	132	140	139	136	134
1972	133	130	130	130	132	136	138	161	161	168	176	186
1973	179	198	205	...	...	...	...	...	...	...	...	...
1974	541	575	598	629	625	596	519	521	514	499	452	430
1975	398	403	396	400	388	352	328	348	358	354	331	307
1976	274	253	248	246	246	242	244	243	266	270	259	258
1977	259	254	261	252	257	264	272	275	275	278	294	324
1978	338	363	396	411	409	404	384	366	369	360	315	294
1979	299	300	314	317	318	324	327	349	360	360	364	379
1980	395	399	415	419	433	442	442	442	442	442	463	470
1981	470	479	505	515	519	535	523	498	490	459	428	383
1982	342	324	325	312	300	292	282	287	270	254	258	265
1983	260	270	282	282	280	269	261	278	299	286	283	271
1984	257	252	254	255	254	256	272	272	254	250	231	224
1985	222	220	221	222	222	222	210	210	210	210	212	220
1986	232	228	215	202	200	205	207	215	207	205	202	195
1987	199	206	212	213	213	212	212	220	251	277	276	269
1988	289	310	303	304	298	301	305	305	305	305	305	289
1989	279	276	285	291	315	334	368	363	350	331	315	315
1990	315	315	302	301	290	278	270	275	271	278	276	275
1991	324	343	337	312	305	309	315	315	315	305	304	294
1992	290	290	290	291	292	294	295	293	287	276	275	276
1993	280	279	266	251	229	227	230	230	234	284	353	370
1994	435	448	423	413	391	345	315	315	305	300	300	300

^a Data relate to quoted prices.^b ... = data not available.

Source: 1961-94: Rice Committee Board of Trade of Thailand, Market Report, SGS Far East Limited (various issues).

Table 24. Export prices (US\$/t fob^a) of rice, wheat, and maize, 1961-93.

YEAR	Rice ^b	Wheat ^c	Maize ^d
1961	137	60	46
1962	153	60	51
1963	143	59	55
1964	138	64	56
1965	136	58	55
1966	163	62	59
1967	206	62	50
1968	202	58	49
1969	187	56	54
1970	144	63	58
1971	129	62	58
1972	147	69	56
1973	350	137	98
1974	542	178	132
1975	363	138	120
1976	254	123	112
1977	272	96	95
1978	368	125	101
1979	334	156	116
1980	434	191	125
1981	483	196	131
1982	293	167	109
1983	277	170	136
1984	252	165	136
1985	216	173	112
1986	211	161	88
1987	230	134	76
1988	301	180	107
1989	320	201	112
1990	287	156	109
1991	313	143	107
1992	287	177	104
1993	268	160	102

^a fob = free on board.^b 5% broken, milled, fob Bangkok.^c Canadian No.1 Western Red Spring 13.5%, in store Thunder Bay, domestic, from 1985 St. Lawrence export.^d US No. 2 yellow, fob Gulf ports.

Sources: World Bank. 1984. Commodity trade and price trends, 1983-84.

The Johns Hopkins University Press, Baltimore & London.

World Bank. 1992. Revision of commodity price forecasts and

quarterly review of commodity markets. Washington.

IMF. International financial statistics, February 1994, Washington, D.C.

Table 25. World market price (US\$/t fob) of rice, selected Asian countries 1961-92.

YEAR	Government-to-government contract				Private trade			
	Myanmar, Ngasein, SMS 42%	Thailand white rice, 35%	Thailand white rice, 10%	China PR 35%	Thailand white rice, 25% super	Thailand cargo rice, 100% B	Thailand broken, A1 super	Pakistan Basmati
1961	91	92	113	91	... ^a	126	99	200
1962	93	92	113	91	...	142	113	256
1963	94	99	125	94	...	134	107	...
1964	99	102	128	101	...	124	91	208
1965	102	104	118	101	...	125	96	204
1966	109	124	129	101	139	156	126	208
1967	120	128	149	133	193	221	159	294
1968	146	147	191	158	191	207	152	284
1969	139	128	173	122	160	181	105	250
1970	97	103	126	104	125	144	85	217
1971	77	81	112	83	94	130	67	203
1972	95	96	...	79	104	151	95	232
1973	170	235	274	179	146	383	246	554
1974	335	450	495	362	442	...	363	820
1975	263	269	336	294	312	323	244	659
1976	172	213	...	210	222	254	177	363
1977	203	228	223	197	237	256	183	408
1978	277	321	327	202	329	361	224	724
1979	237	292	308	212	305	336	199	754
1980	317	387	403	245	396	430	254	746
1981	326	402	436	315	434	468	247	727
1982	227	243	262	245	256	280	198	677
1983	205	239	253	221	247	278	194	600
1984	200 ^b	233	247	216	236	254	211	616
1985	174	198	194	172	202	222	171	651
1986	135	180	204	132	185	220	126	714
1987	153	204	226	169	209	238	168	744
1988	...	272	297	261	254	307	232	716
1989	...	291	315	...	296	321	237	684
1990	...	248	282	...	252	286	166	564
1991	...	241	307	...	246	313	189	487
1992	...	231	...	...	...	...	...	...

^a ... = data not available.^b Starting 1984, relates to Emata 35%.

Sources: 1961-92: FAO. Intergovernmental Group on Rice. Session documents. (Various issues)
 For Thai 25% and 1984-89 data for Thai 10%, 35%, 100%, and A1 super.
 Rice Committee Board of Trade of Thailand.

Table 26. World prices (US\$/t fob) of selected types of rice, 1983-93.

Year	Thai rice			U.S. rice		Pakistan	
	2nd Grade 100%	Parboiled 100%	A1 Super	Long Grain No. 2 (4%)	Medium Grain No. 5 (20%)	Basmati	IRRI (40-45%)
1983	241	224	169	391	355	600	198
1984	217	214	182	402	333	616	208
1985	188	183	148	361	328	651	172
1986	186	168	109	217	222	714	137
1987	220	212	154	257	213	744	164
1988	284	280	224	384	299	716	269
1989	305	287	218	330	312	684	274
1990	278	252	157	332	290	564	140
1991	302	284	178	383	314	487	192
1992	278	258	180	350	306	446	186
1993							
January	270	248	170	289	265	440	175
February	266	244	173	277	255	450	175
March	245	240	165	259	243	420	175
April	217	214	153	262	235	415	175

Source: FAO Committee on Commodity Problems, Intergovernmental Group on Rice, 33rd and 36th sessions 28 February-3 March 1990 and 28 June-1 July 1993.

Table 27. FAO's revised rice export price index, 1982-93 (1982-84=100).^a

YEAR	Export price indices (1982-84=100)				
	Total index	High quality ^b	Low quality ^c	Long grain	Medium round grain
1982	103	103	104	104	102
1983	99	100	96	99	99
1984	98	97	100	98	99
1985	88	91	82	88	93
1986	70	72	63	67	86
1987	82	83	80	80	94
1988	112	109	121	108	131
1989	118	117	122	111	154
1990	103	107	92	96	138
1991	113	115	109	108	138
1992	109	111	103	101	150
1993					
January	103	105	99	95	143
February	101	101	99	93	138
March	95	95	95	88	126
April	90	90	90	82	125

^a Index of export prices of rice revised due to unavailability of many of the price series used in the old index and the weightings for the various grades of rice were no longer representative of the current world rice market. This new index also includes price series for rice from the USA.

^b All rice with 20% or less broken.

^c Rice with more than 20% broken.

Sources: FAO Intergovernmental Group on Rice Session Documents. Rome (various issues).

Domestic prices

Table 28. Government support/procurement price (domestic currency/t) of rough/milled rice, selected countries, 1961-93.

YEAR	Bangladesh ^a (taka)		China PR ^b Rough rice (yuan)	India ^c Rough rice (rupee)	Indonesia ^d (000 rupiah)		Japan ^e Husked rice (000 yen)	Korea Rep ^f Milled rice (000 won)	Malaysia ^g Rough rice (M\$)
	Rough rice	Milled rice			Rough rice	Milled rice			
1961	322	517	182	...	3	...	65	14	248
1962	322	517	183	...	7	...	69	15	248
1963	335	538	183	...	22	...	76	19	248
1964	362	593	183	375	...	...	84	24	265
1965	342	561	186	399	...	...	109	28	265
1966	355	582	211	482	...	...	119	30	265
1967	435	714	211	522	...	...	130	32	265
1968	469	756	212	524	...	37	138	38	265
1969	496	788	210	530	21	37	138	46	265
1970	496	788	212	531	21	37	138	63	265
1971	496	788	212	532	21	37	143	79	265
1972	650	1053	210	545	21	37	149	89	265
1973	991	1587	211	700	28	49	172	102	306
1974	1465	2335	213	810	42	69	227	142	415
1975	1983	3162	218	809	60	97	260	176	430
1976	1983	3215	215	740	70	108	276	209	430
1977	2251	3591	217	770	72	110	287	234	430
1978	2304	3644	219	850	78	119	288	270	430
1979	2814	4421	263	950	94	149	288	330	500
1980	2947	4555	265	1050	111	175	295	412	565
1981	3322	5090	263	1150	128	195	296	470	630
1982	3617	5626	263	1220	146	214	299	504	630
1983	3858	6028	251	1320	156	238	304	504	661
1984	4420	6644	256	1370	165	270	311	519	661
1985	4554	6832	260	1420	175	285	311	547	661
1986	4689	7100	262	1460	190	285	311	578	661
1987	5358	8251	281	1500	190	313	293	658	661
1988	5626	8664	290	1600	210	344	279	764	661
1989	5900	9075	370	1850	270	405	279	855	661
1990	6430	9900	371	2050	310	436	275	896	744
1991*	6520	9726	504	2300	330	...	273	898	744
1992	6040	9860	585	2700	340	...	273	...	744
1993	5580	8946	672	3100	360	...	273	- ^o	744

Myanmar ^h	Nepal ⁱ	Pakistan ^j	Philippines ^k	Sri Lanka	Thailand ^m	Cameroon ⁿ	Côte d'Ivoire ⁿ	Madagascar	Sierra Leone ⁿ	YEAR
Rough rice	Rough rice	Rough rice	Rough rice	Rough rice	Rough rice	Rough rice	Rough rice	Rough rice	Rough rice	
(kyat)	(rupee)	(rupee)	(peso)	(rupee)	(baht)	(000 FCFA)	(000 franc)	(000 franc)	(Leone)	

Table 28. Continued

- ^aSources: 1961-73: Bangladesh Ministry of Agriculture. 1974. Bangladesh agriculture in statistics. Dhaka.
1974-75: Bangladesh Ministry of Agriculture and Forests. 1979. Development statistics of Bangladesh agriculture. Series No.4. Dhaka.
1976-87: Bangladesh Bureau of Statistics. Bangladesh statistical yearbook. Dhaka (various issues).
1988-93: FAO Intergovernmental Group on Rice. Session documents. Rome. (various issues)
- Milled rice:
1961-75; and 1991-93: Pertains to milled coarse rice. 1976-90: pertains to medium rice.
Sources: 1961-69: Bangladesh Ministry of Agriculture. 1974. Bangladesh agriculture in statistics. Dhaka.
1970-75: Bangladesh Ministry of Agriculture and Forests. 1979. Development statistics of Bangladesh agriculture. Series No.4. Dhaka.
1976-87: Bangladesh Bureau of Statistics. Bangladesh statistical yearbook.
1988-90: FAO Intergovernmental Group on Rice. Session documents. Rome (various issues).
1991-93: Directorate General of Food.
- ^bAverage procurement price of japonica and indica varieties.
Source: Ministry of Commerce. Economic statistical materials on grains (various issues).
- ^cSources: 1964-70: India Directorate of Economics and Statistics, Ministry of Agriculture. Bulletin on food statistics. New Delhi (various issues).
1971-84: India Directorate of Economics and Statistics, Ministry of
1985-93: FAO Intergovernmental Group on Rice. Session documents. Rome (various issues).
- ^dRough rice:
1952-63: Pertains to Cere No.2 for Central Java.
1969-92: Pertains to dry rough rice for cooperative (KUD) sales.
Sources: 1961-63: Pitt, M. 1977. Economic policy and agricultural development in Indonesia. PhD Thesis, University of California. Original source: BULOG.
1969-73: FAO Intergovernmental Group on Rice. 25th Session documents. 1982. Rome.
1974-82: Indonesia, Badan Urusan Logistik. 1982. Statistik Bulog 1969-82. Jakarta.
1983-93: FAO Intergovernmental Group on Rice. Session documents (various issues).
- Milled rice:
Pertains to dry milled rice.
Source: Badan Urusan Logistik. Statistik Bulog. Jakarta (various issues).
- ^ePertains to husked rice prices.
Sources: 1961-64: Kikuchi, M., K. Mochida, and Y. Hayani. 1975. Rice statistics in Japan. International Rice Research Institute, Philippines.
1965-83: Ministry of Agriculture, Forestry and Fisheries. Statistical yearbook. Tokyo (various issues).
1984-92: FAO Intergovernmental Group on Rice. Session documents. Rome (various issues).
- ^fSources: 1961-64: FAO. 1965. The world rice economy in figures, 1909-63. Rome.
1965-78: Republic of Korea, Ministry of Agriculture and Fisheries. Yearbook of Agriculture and Forestry Statistics. Seoul (various issues).
1979-93: FAO Intergovernmental Group on Rice. Session Documents. Rome. (various issues).
- ^gGuaranteed minimum price (GMP) for dry rough rice.
Sources: 1961-82: Malaysia Ministry of Agriculture. Paddy statistics, Peninsular Malaysia. Kuala Lumpur (various issues).
1983-93: FAO Intergovernmental Group on Rice. Session documents. Rome (various issues).

- ^h Starting 1989 the procurement support system was abolished, however some state companies were designated to procure paddy at relatively higher rates.
Source: 1961-93: Burma Ministry of Planning and Finance. Report to the Pyithu Hluttaw on the financial, economic conditions of the Socialist Republic of Burma (various issues).
- ⁱ Source: Food and Agriculture Marketing Services Department. Agricultural Marketing Information Bulletin. Kathmandu (various issues).
- ^j 1961-75: Support prices for coarse rice.
1976-93: Pertains to support of Basmati rough rice.
Sources: Ministry of Food, Agriculture and Cooperatives 1993. Agricultural statistics of Pakistan 1992-93. Islamabad.
Pakistan Finance Division. 1984. Pakistan economic survey 1983-84. Islamabad.
FAO Intergovernmental Group on Rice. Session Documents. Rome (various issues).
- ^k 1961-71: Average of upper and lower limits of government set price support.
Source: National Food Authority.
- ^l Guaranteed price scheme.
Sources: 1961-81: Sri Lanka Ministry of Agricultural Development and Research. 1981. Agricultural statistics of Sri Lanka. Colombo (unpublished data).
1982-85: Sri Lanka Ministry of Agricultural Development and Research. Colombo.
1986-89: FAO Intergovernmental Group on Rice. Session documents. Rome (various issues).
- ^m Minimum guaranteed price for rough rice 100% 1st grade.
Source: FAO Intergovernmental Group on Rice. Session documents. Rome (various issues).
- ⁿ Source: OSIRIZ/CIRAD-IRAT Database.
FAO Statistics Division.
- ^o - = magnitude zero; ... = data not available.

Table 29. Farm harvest price (domestic currency/t) of rough rice, selected countries. 1961-93.

YEAR	Bangladesh ^a (taka)	India ^b (rupee)	China PR ^c (yuan)	Indonesia ^d (000 rupiah)	Japan ^e (000 yen)	Korea Rep ^f (000 won)
1961	480	382	... ⁿ	...	...	12
1962	503	368	...	...	55	15
1963	458	417	...	...	65	16
1964	469	506	...	...	72	25
1965	589	655	...	...	83	31
1966	673	783	236	4	87	29
1967	637	834	243	10	93	31
1968	813	766	241	26	102	34
1969	816	735	241	22	108	40
1970	783	735	241	27	109	49
1971	933	776	252	26	108	55
1972	1085	858	256	31	114	69
1973	1574	1052	254	47	109	88
1974	3311	1417	252	51	167	133
1975	1987	1146	254	62	193	168
1976	1785	1114	256	76	216	203
1977	2192	1152	256	79	238	224
1978	2533	1079	263	82	246	263
1979	2721	1320	331	109	242	341
1980	2811	1399	361	125	253	441
1981	3172	1382	382	123	273	501
1982	3590	1623	392	150	278	518
1983	4112	1813	393	171	281	531
1984	4723	1708	395	183	294	552
1985	4392	1896	416	190	293	600
1986	5410	2027	466	168	263	642
1987	5615	2045	480	186	259	673
1988	5769	2385	497	303	258	751
1989	5564	2559	513	315	258	770
1990	6119	2823	531	345	345	818
1991	6237	3346	...	373	352	850
1992	4987	...	...	...	397	882
1993	...	...	...	...	...	919

Myanmar ^a (kyat)	Nepal ^h (rupee)	Philippines ⁱ (peso)	Sri Lanka ^j (rupee)	Taiwan China ^k (NT\$)	Thailand ^l (baht)	YEAR
...	...	230	547	3933	942	1961
...	...	220	532	3785	1126	1962
...	...	270	510	3996	979	1963
...	900	310	508	4092	725	1964
...	1130	300	539	4128	860	1965
167	1070	340	530	4150	1158	1966
170	1100	350	655	4390	1144	1967
176	1200	330	735	4630	972	1968
176	1310	340	729	4530	860	1969
176	1260	360	710	4720	629	1970
176	1410	490	693	4650	800	1971
210	1650	600	711	4930	1311	1972
296	1760	500	710	5690	1936	1973
462	1790	810	1280	10200	2104	1974
462	1740	940	2010	11080	1949	1975
451	1590	920	1789	10620	1849	1976
451	1770	990	1683	8900	2302	1977
431	1660	950	1947	9080	2184	1978
431	1710	970	2010	10980	2707	1979
431	1830	1050	2660	13400	3165	1980
431	2150	1260	3220	14100	2876	1981
431	2540	1320	3520	15580	2937	1982
431	2860	1350	3520	14120	2785	1983
431	2650	1960	3510	15230	2325	1984
431	3000	3230	3850	14000	2301	1985
431	3520	2960	3900	13300	2994	1986
841	4390	2720	4150	...	3764	1987
1058	4680	3060	4250	...	4030	1988
2311	5570	3430	5650	...	3511	1989
2455	...	4720	7470	...	3743	1990
2807	...	5030	7240	...	3763	1991
3999	...	4370	8060	...	3268	1992
6155	...	5400	8220	...	3637	1993

Table 29. Continued

YEAR	Côte d'Ivoire ^m (000 franc)	Guinea ^m (syli)	Madagascar ^m (000 franc)	Mali ^m (000 FCFA)	Nigeria ^m (naira)	Senegal ^m (000 FCFA)	Sierra Leone ^m (leone)
1961	...	...	11	4	...	19	...
1962	...	...	11	4	...	19	...
1963	...	...	11	5	...	19	...
1964	...	...	11	6	...	19	...
1965	...	...	11	7	...	21	...
1966	18	2000	13	7	117	21	73
1967	18	2000	13	8	117	21	73
1968	18	2000	13	9	110	21	73
1969	20	2000	13	9	141	21	73
1970	20	2000	13	13	136	21	73
1971	20	2100	15	13	174	21	84
1972	20	2100	12	13	176	21	84
1973	20	2500	25	13	191	21	84
1974	65	9000	31	13	200	25	117
1975	65	9000	30	20	210	42	183
1976	65	9000	30	23	230	42	165
1977	65	9000	35	23	240	42	183
1978	65	9000	35	25	240	42	220
1979	65	9000	39	31	329	42	276
1980	50	9000	43	38	329	42	280
1981	60	9000	47	50	400	52	350
1982	69	9000	60	55	400	52	460
1983	68	12000	65	60	400	52	525
1984	80	12000	75	65	500	60	590
1985	80	15000	85	70	700	66	680
1986	84	16000	120	70	1000	85	770
1987	90	16000	130	96	1200	85	880
1988	94	17000	140	...	1500	85	954
1989	98	18100	152	125	1200	85	1000
1990	103	19300	165	133	1300	...	1100
1991	...	...	...	...	...	...	...
1992	...	...	...	...	...	...	...
1993	...	...	...	...	...	...	...

- ^a1961-66: Converted from farm gate price of milled rice for winter (aman) and autumn (aus) by assuming milling rate of 0.666.
- 1967-92: Average of aus, aman, and boro rough rice prices.
- Sources: 1961-66: East Pakistan Superintendent, Government Printing. Season and crop report of East Pakistan. Government Press, Dacca, East Bengal. (various issues)
- 1972-89: Bangladesh Bureau of Statistics. Statistical yearbook of Bangladesh. Dhaka (various issues).
- 1990-92: Directorate of Agricultural Marketing.
- ^bSource: 1961-88: India Directorate of Economics and statistics, Ministry of Agriculture. Farm (harvest) prices of principal crops in India, New Delhi (various issues).
- ^cSource: FAO Statistics Division.
- ^d = average producer price in Indonesia.
- Sources: Biro Pusat Statistik. Indikator Pertanian 1986 and 1987. Jakarta.
- Biro Pusat Statistik. Statistik Indonesia 1991. Jakarta.
- ^e1962-85: Converted from farm harvest price of milled rice in Tokyo by assuming milling rate of 0.73.
- 1986-92: Farm harvest price in Japan.
- Sources: 1962-78: Japan Bureau of Statistics, Office of the Prime Minister. 1980. Nikon tokei nukan (Japan Statistical Yearbook). Tokyo.
- 1979-92: Japan monthly statistics of agriculture, forestry, and fisheries (various issues).
- ^fPrice received by farmers for nonglutinous rough rice. 1984-86: Derived from index numbers of rice price received by farmers.
- 1971-83: Converted from farm harvest price of milled rice by assuming milling rate of 0.72.
- Sources: 1960-70: National Agricultural Cooperative Federation. Farm price statistics summary, 1959-70. Seoul. 1971-83: Republic of Korea Ministry of Agriculture and Fisheries. Yearbook of agriculture and forestry statistics. Seoul (various issues).
- 1984-86: Republic of Korea. National Bureau of Statistics. Korea Statistical yearbook. Seoul (various issues).
- ^gSource: 1966-76: FAO Statistics Division.
- 1977-93: Lowest wholesale price at farm gate for Ngasein paddy.
- 1987-93: Connected from Ngasein 35% milled rice. Wholesales prices assuming 65% milling recovery.
- Source: Ministry of Planning and Finance. Rangoon.
- ^hRetail price of rough rice.
- Source: Food and Agricultural Marketing Services Department.
- Agricultural Marketing Information Bulletin, Kathmandu. (various issues)
- ⁱ1961-69: Price of ordinary varieties, 1970-93: price of special varieties.
- Sources: Philippine Bureau of Statistics. Prices received and paid by farmers (various issues).
- ^jSources: 1961-74: Sri Lanka Department of Census and Statistics. Statistical abstract of the Democratic Socialist Republic of Sri Lanka. Department of Government Printing, Colombo. (various issues)
- 1975-93: Department of Census and Statistics. Bulletin of selected retail prices, Colombo. (various issues)
- ^kFarm price of Ponlai rough rice.
- Source: Taiwan Province Department of Agriculture and Forestry, Taiwan monthly agricultural prices. Taipei (various issues).
- ^lSource: Thailand Center for Agricultural Statistics, Ministry of Agriculture and Cooperatives. Agricultural statistics of Thailand. Bangkok. (various issues)
- Office of Agricultural Economics, Ministry of Agriculture. Bangkok.
- ^mSource: OSIRIZ/CIRAD-IRAT Database.
- FAO Statistics Division.
- ⁿ . . . = data not available.

Table 30. Wholesale price (domestic currency/t) of milled rice, selected countries, 1961-93.

YEAR	Bangladesh ^a (taka)	India ^b (rupee)	Indonesia ^c (000 rupiah)	Japan ^d (000 yen)	Korea Rep ^e (000 won)	Malaysia ^f (M\$)	Myanmar ^g (kyat)	Pakistan ^h (rupee)	
								I	II
1961	819	549	...	79	21	423	232	539	...
1962	843	556	...	83	22	468	298	539	...
1963	747	621	...	88	35	450	286	539	...
1964	790	790	...	92	44	439	258	539	...
1965	898	712	...	105	42	440	253	539	...
1966	1053	956	7	112	43	467	299	840	...
1967	997	1234	21	120	47	558	750	1106	...
1968	1273	1209	48	133	54	564	997	556	...
1969	1277	1130	37	137	64	529	546	585	...
1970	1226	1183	45	136	72	443	534	615	1074
1971	1461	1177	45	135	89	431	702	591	1235
1972	2241	1326	79	139	123	441	...	726	2004
1973	3197	1603	77	143	122	831	...	912	3517
1974	6216	2214	78	165	152	840	...	1180	3487
1975	4073	1712	97	209	230	858	...	1217	3774
1976	3564	1716	119	237	278	862	...	1398	4280
1977	4394	1786	127	261	302	898	...	1667	4919
1978	4689	1789	158	271	352	910	...	1648	4764
1979	6431	1968	196	272	469	910	...	1625	4575
1980	5573	2087	222	282	596	910	...	1701	5775
1981	7128	2228	243	296	742	910	...	2010	6802
1982	7583	2605	274	306	753	...	...	2142	6919
1983	8387	3039	328	315	765	...	...	2338	6569
1984	9218	3017	347	322	768	...	846	2518	6569
1985	8923	2704	361	321	811	...	846	2556	8160
1986	10825	2929	431	320	891	890	846	2545	8160
1987	11602	3214	482	317	927	...	846	2570	8177
1988	11920	3619	505	317	1024	...	3544	2585	8796
1989	11580	4037	504	330	1071	...	6320	2926	9250
1990	12350	3955	544	337	1218	...	4587	3500	10067
1991	12526	...	...	352	1272	...	5020	3792	12729
1992	12565	...	...	356	1296	...	6840	4375	14292
1993	10897	...	...	367	1314	...	15632	5033	15417

Philippines ^l (peso)	Sri Lanka ^j (rupee)	Taiwan, China ^k (NT\$)	Thailand ^l (baht)	Cameroon ^m (000 FCFA)	Côte d' Ivoire ^m (000 FCFA)	Madagascar ^m (000 FMG)	Mali ^m (000 FCFA)	Senegal ^m (000 FCFA)	YEAR
454	1018	5812	1633	...	34	...	...	30	1961
407	1091	5473	1893	...	34	...	...	30	1962
472	1082	5612	1682	...	34	...	...	30	1963
569	1227	5802	1544	...	37	...	...	30	1964
552	1325	5853	1536	...	41	...	...	28	1965
674	1321	5931	2086	...	41	...	...	28	1966
683	1586	6150	2398	...	49.6	...	...	33	1967
637	1586	6487	2001	65	49.6	...	27	33	1968
600	1685	6469	2205	65	49.6	...	27	43	1969
810	1632	7059	1905	65	49.6	...	38	43	1970
910	1593	6719	1578	52	41	30	38	37	1971
1190	2108	7036	1822	52	41	30	39	37	1972
1050	3050	8166	2865	83	63	33	39	57	1973
1690	3050	14668	3773	115	116	57	43	57	1974
1790	3132	15862	3723	115	87	60	55	75	1975
1800	3078	15660	3822	140	87	60	55	75	1976
2020	2916	13470	3866	113	87	49	55	75	1977
1960	3218	13680	4250	125	87	50	...	75	1978
1940	3610	16680	4522	135	87	49	...	75	1979
2150	3981	20880	5671	134	87	59	...	75	1980
2430	4955	21380	6500	145	100	70	...	75	1981
2690	5671	24230	5452	160	118	...	...	100	1982
2720	5914	22080	5488	156	118	...	...	110	1983
3740	6326	23980	4859	170	147	...	...	120	1984
6210	6637	22020	4610	171	147	...	...	148	1985
6100	7000	21410	4289	166	147	...	...	148	1986
5600	7954	21230	5072	149	147	...	...	...	1987
6710	8761	23680	6441	149	147	...	...	120	1988
6810	11696	28010	7154	149	147	...	...	120	1989
8660	14511	...	6419	...	...	...	...	...	1990
9350	14544	...	7765	...	...	...	...	...	1991
8660	15905	...	7085	...	...	...	...	...	1992
10780	16540	...	5965	...	...	...	...	...	1993

Table 30. Continued

^a Medium milled rice prices at Dhaka.

Sources: 1961-67: Pakistan Central Statistical Office. 1972. 25 years of Pakistan in statistics, 1947-72. Dhaka.

1968-91: Bangladesh Bureau of Statistics. Bangladesh statistical yearbook. Dhaka (various issues).

1992-93: Bangladesh Bureau of Statistics. Monthly statistical bulletin of Bangladesh.

^b Coarse milled rice.

Sources: 1961-74: India Directorate of Economics and Statistics, Ministry of Food and Agriculture. Agricultural prices in India. New Delhi.

1975-90: India Directorate of Economics and Statistics, Ministry of Agriculture. Bulletin on food statistics. New Delhi (various issues).

^c 1961-82: Prices at Jakarta market.

1961-67: Prices for bulu milled rice.

1968-82: Prices are for Saigon Bandung milled rice.

1966-90: Prices are given in new rupiah, one rupiah equals 1000 old rupiahs.

Sources: 1961-75: Indonesia Biro Pusat Statistik. Statistical pocketbook of Indonesia. Jakarta (various issues).

1976-90: Indonesia, Biro Pusat Statistik. Statistical yearbook of Indonesia. Jakarta (various issues).

^d 1961-79: Government resale price in Tokyo main market. The resale price is the price received by the government for milled rice sold to wholesalers.

1980-93: Wholesale prices of Koshihikari rice in Niigata Japan.

Source: B. Rose. 1985. Appendix to the rice economy of Asia. Resources for the Future and International Rice Research Institute.

1990-93: Ministry of Agriculture, Forestry and Fisheries, Japan.

^e 1961-64: Average market price for domestic first-grade milled rice.

1965-89: Average market price for polished medium milled rice.

Sources: 1950-80: Bank of Korea. Economic Statistics Yearbook. Seoul (various issues).

1981-86: Republic of Korea. Ministry of Agriculture and Fisheries. Yearbook of agriculture and forestry statistics. Seoul (various issues).

1987-89: Republic of Korea. Ministry of Agriculture and Fisheries. Monthly bulletin of Statistics, Korea (various issues).

^f 1961-76: Average price for white No. 1 kedah milled rice, new crop.

1977-81: Average price for Malaysian long, super 10% (A2) milled rice.

Sources: 1961-67: Malaysia Department of Statistics. Rice statistics for West Malaysia. Kuala Lumpur (various issues).

1968-81 and 1986: Peninsular Malaysia Planning and Development Division. Ministry of Agriculture. Paddy statistics. Kuala Lumpur (various issues).

^g 1961-71: Converted from Ngasein rough rice prices assuming 0.625 milling rate.

1984-93: Average wholesale price for Ngasein 35% milled rice.

Sources: 1961-71: Myint, S. 1978. Economics of Production and Procurement of Paddy in Burma. MS thesis, University of the Philippines Los Baños.

1984-93: Central Statistical Organization. Statistics yearbook (various issues).

- ^h 1961-79: Kangni prices at Karachi market. Prices for 1961-65 are government-controlled prices.
 1980-91: Rice IRRRI Sind prices at Hyderabad.
 Sources: 1961-70: Pakistan Central Statistics Office. 1972. 25 years of Pakistan in statistics, 1947-72. Karachi.
 1971-79: Pakistan Central Statistics Office 1982. 10 years of Pakistan in statistics, 1972-82. Karachi.
 1980-93: Pakistan Federal Bureau of Statistics, Statistics Division. Pakistan statistical yearbook. Karachi (various issues).
- II Basmati prices at Karachi market.
 Sources: 1970-93: Pakistan Federal Bureau of Statistics, Statistics Division. Pakistan statistical yearbook. Karachi (various issues).
- ⁱ 1961-69: Wholesale price for Macan first-class milled rice, Manila.
 1970-92: Average wholesale price for special milled rice, Philippines.
 Sources: 1961-80: Central Bank of the Philippines (unpublished data).
 1981-91: Bureau of Statistics, Ministry of Agriculture. Wholesale prices by trading centers (unpublished data).
 1961-74: Main market (Colombo) rice price for local milled rice.
 1975-93: Average wholesale rice price, Sri Lanka.
 Sources: 1961-72: Sri Lanka Department of Census and Statistics. Statistical abstract of the Democratic Socialist Republic of Sri Lanka. Colombo (annual).
 1973-86: Department of Agriculture, Division of Agricultural Economics and Projects, Peradeniya, Sri Lanka.
 1987-93: Food commodity bulletin, Agrarian Research and Training Institute (various issues).
- ^k 1961-67: Ponlai white milled rice price in Taipei.
 1968-86: Average price of Ponlai white milled rice in Taiwan, China.
 Sources: 1961-86: Taiwan Council for Economic Planning and Development. 1982-83 and 1987. Taiwan statistical data book. Taipei.
 1987-89: Taiwan Council for Economic Planning and Development. Monthly bulletin of statistics of the Republic of China (various issues).
- ^l Wholesale price of 5% broken, Bangkok.
 Sources: 1961-78: Bank of Thailand Monthly Bulletin. Bangkok (various issues).
 1979-90: Bank of Thailand Quarterly Bulletin (various issues).
 1991-93: Department of Domestic Trade, Ministry of Commerce.
- ^m Wholesale price, Yaounde market.
 Source: OSIRIZ/CIRAD/IRAT Database.
- ⁿ ... = data not available.

Table 31. Retail price (domestic currency/t) of milled rice, selected Asian countries, 1961-93.

YEAR	Bangladesh ^a (taka)	China PR ^b (yuan)	India ^c (rupee)	Indonesia ^d (000 rupiah)	Japan ^e (000 yen)	Korea Rep ^f (000 won)	Malaysia ^g (M\$)
1961	796	242	608	... ^P	97	23	463
1962	882	241	612	...	98	24	463
1963	839	239	714	...	110	38	463
1964	830	245	778	...	118	46	463
1965	957	268	789	...	136	44	463
1966	1269	299	1010	6	146	46	479
1967	1140	301	1157	17	151	50	579
1968	1265	301	1223	48	170	58	612
1969	1275	302	1244	38	181	72	579
1970	1286	301	1263	44	186	80	562
1971	1533	304	1268	40	188	100	562
1972	2401	303	1408	46	192	135	562
1973	3376	302	1708	71	207	135	694
1974	6699	299	2228	76	232	187	926
1975	4344	306	2158	94	299	253	926
1976	3756	304	1726	109	342	303	926
1977	4708	303	1833	116	379	324	920
1978	5029	303	1755	120	403	343	960
1979	6880	304	1838	134	408	438	970
1980	6174	305	2150	186	414	574	970
1981	7576	306	2272	212	425	811	990
1982	8400	306	2492	227	440	888	1010
1983	8838	304	3264	263	448	865	1000
1984	9876	300	3104	288	464	865	1000
1985	9651	301	2911	284	479	928	1000
1986	11485	301	3102	322	483	999	1000
1987	12510	301	3152	360	483	1043	1000
1988	12860	301	3220	484	477	1142	1000
1989	12710	301	3180	505	490	1192	1000
1990	13260	301	3190	537	493	1252	...
1991	13622	...	...	565	494	1421	...
1992	13836	...	...	...	503	1394	...
1993	12322	...	...	...	...	1555	...

Myanmar ^h (kyat)	Nepal ⁱ (rupee)	Pakistan ^j (rupee)	Philippines ^k (peso)	Sri Lanka ^l (rupee)	Taiwan, China ^m (NT\$)	Thailand ⁿ (baht)	YEAR
371	...	557	470	1277	5890	2320	1961
390	...	557	440	1309	5830	2080	1962
385	...	557	520	1325	5920	2050	1963
371	1550	557	640	1374	5960	2000	1964
...	1810	557	610	1341	6030	2620	1965
352	1910	921	750	1277	6120	2880	1966
...	2150	1263	840	1762	6410	2250	1967
648	2080	846	730	1891	6850	2580	1968
305	2360	728	750	1923	7050	2540	1969
305	2360	739	940	1907	7330	1940	1970
432	2240	1000	1040	1858	7610	2180	1971
671	2740	1440	1290	2133	8120	3640	1972
1254	3040	2050	1120	2956	9140	4083	1973
1254	3400	2260	1850	5000	17030	4290	1974
1174	3420	2420	1920	3593	18010	4508	1975
1174	3030	2980	1910	3297	17900	4605	1976
1174	3140	3520	2100	3176	16200	5189	1977
1674	3390	4000	2080	3516	15980	5504	1978
1176	3450	3690	2090	3835	19090	5809	1979
1646	3810	4070	2350	4710	23620	7798	1980
1289	3940	5000	2350	6250	24820	7900	1981
1223	5030	5480	2850	6560	27570	7690	1982
1501	5870	5460	3000	7280	25490	7321	1983
1835	5280	5250	3900	8210	27020	7283	1984
2023	5400	5710	6710	8420	24020	7099	1985
2126	6560	5710	6810	8260	24950	7103	1986
2140	7000	5900	6270	8820	24488	7049	1987
3720	7650	5790	7160	8530	27413	8579	1988
6684	7730	5770	7300	12430	...	8583	1989
4779	7700	5910	9190	14890	...	9417	1990
5687	9810	6740	10100	16920	...	...	1991
10010	11410	7030	9650	17090	...	10262	1992
17066	...	8010	11840	17760	...	10020	1993

Table 31. Continued

YEAR	Cameroon ^o Yaounde market (000 FCFA)	Côte d'Ivoire ^o (000 FCFA)	Madagascar ^o Antananarivo market (000 FMG)	Mali ^o Bamako market (000 FCFA)	Senegal ^o Dakar market (000 FCFA)
1961	...	54	27	...	...
1962	...	51	26	...	...
1963	...	54	28	24	...
1964	...	46	28	27	...
1965	...	51	33	49	...
1966	...	56	36	55	47
1967	...	61	35	56	49
1968	72	58	34	56	49
1969	79	61	34	44	53
1970	79	74	34	52	55
1971	58	50	34	56	53
1972	58	50	34	63	65
1973	92	63	38	73	70
1974	130	116	62	80	70
1975	147	108	65	75	122
1976	118	100	65	73	90
1977	125	134	56	82	90
1978	138	100	57	148	87
1979	150	100	55	129	90
1980	149	100	60	157	100
1981	161	133	72	164	89
1982	174	130	116	164	114
1983	170	130	235	163	118
1984	185	160	295	173	130
1985	190	165	352	179	165
1986	185	165	556	173	165
1987	165	160	484	172	165
1988	165	160	...	205	130
1989	165	160	...	200	135
1990	...	...	...	190	...
1991	...	...	...	...	...
1992	...	...	...	...	...
1993	...	...	...	...	...

- ^a Milled medium rice, Dhaka.
Sources: 1961-67: Pakistan Central Statistics Office, 1972 25 years of Pakistan statistics, 1947-72. Dhaka.
1968-90: Bangladesh Bureau of Statistics. Bangladesh Statistical Yearbook. Dhaka (various issues).
1991-93: Bangladesh Bureau of Statistics. Monthly statistical bulletin of Bangladesh.
- ^b Ration price of rice at state shop.
Source: Ministry of Commerce. Economic statistical material on grain (various issues).
- ^c 1961-74: Common milled rice, India.
1975-90: Coarse milled rice.
Sources: 1961-88: India Directorate of Economics and Statistics, Ministry of Agriculture. Agricultural Prices in India. New Delhi (various issues).
1989-90: India Directorate of Economics and Statistics, Ministry of Agriculture. (unpublished data).
- ^d Retail price in Jakarta.
1966-91: In new rupiah. One new rupiah equals 1000 old rupiahs.
Source: Biro Pusat Statistik. Statistical yearbook of Indonesia. Jakarta. (various issues).
- ^e Nonglutinous milled rice, Tokyo.
Sources: Ministry of Agriculture, Forestry and Fisheries. Statistical abstract of agriculture and forestry and monthly statistics of agriculture, forestry and fisheries. Tokyo (various issues).
- ^f Retail price in Seoul.
Sources: 1961-64: Bank of Korea. Economic statistics yearbook. Seoul (various issues).
1965-73: Republic of Korea Economic Planning Board. Monthly statistics of Korea. Seoul (various issues).
1974-85: Korea Ministry of Agriculture and Forestry. Yearbook of agriculture and forestry statistics. Seoul (various issues).
1986-89: Korea Ministry of Agriculture and Forestry. Monthly bulletin of statistics of Korea (various issues).
- ^g 1961-76: Local Kedah No. 1, West Malaysia.
1977-89: Malaysian medium-grain premium milled rice.
Sources: Peninsular Malaysia Department of Statistics. Monthly statistical bulletin. Kuala Lumpur (various issues).
- ^h 1961-62: Kamakji, 2nd quality, Rangoon.
1963-73: Main market price, Ngasein milled rice.
1966, 1969, and 1970 are controlled prices.
1974-77: Prevailing market price, Ngasein milled rice in November of each year, Rangoon.
1982-87: Prevailing market price, Ngasein 35% for October of each year, Rangoon.
1978-93: Average market price of Ngasein 35% at Yangon.
Sources: 1961-62: FAO. 1965. The world rice economy in figures. Rome.
1963-73: Burma Central Statistical and Economics Department. 1975. Statistical yearbook of Burma. Rangoon.
1974-93: Burma Ministry of Planning and Finance. Report to the Pyithu Hluttaw on the financial, economic and social Conditions of the Socialist Republic of the Union of Burma (various issues).
- ⁱ Coarse rice, Nepal.
Source: Department of Agricultural Development. Agricultural Marketing Information Bulletin. Kathmandu (various issues).

- j 1961-70: coarse kangni milled rice, Karachi.
 1971-87: Basmati broken milled rice, Karachi.
 Sources: Pakistan Central Statistics Office. 1972. 25 years of Pakistan in 1947-72. Dhaka.
 1971-81: Pakistan Central Statistics Office. 1983. 10 years of Pakistan in statistics, 1972-82. Karachi.
 1982-93: Pakistan Federal Bureau of Statistics, Statistics Division.
 Pakistan statistical yearbook. Karachi (various issues).
- k 1961-70: average price of all varieties; 1971-92: price of special milled rice, Manila.
 Sources: 1961-80: Central Bank of the Philippines.
 1981-91: Bureau of Agricultural Statistics, Ministry of Agriculture.
 Prices paid and received by farmers (various issues).
- l 1961-87: Average retail price for raw local milled rice, Colombo.
 1988-93: Retail price of raw Kikulu grade II rice, Colombo.
 Sources: 1961-76: Department of Census and Statistics. Statistical abstract of the Democratic Socialist Republic of Sri Lanka. Department of Government Printing. Colombo (annual).
 1977-79, 1983-93: Sri Lanka Department of Census and Statistics, Ministry of Plan and Implementation. Bulletin of selected retail prices, Colombo. (various issues).
 1980-82: Sri Lanka Central Bank of Ceylon. 1982. Central Bank of Ceylon Annual Report. Colombo.
- m Ponlai milled rice, main market, Taipei. 1978-89. Ponlai milled rice average of city prices.
 Sources: 1961-77: Taiwan Province Food Bureau. Taiwan food statistics book, 1980.
 1978-86: Department of Agriculture and Forestry 1987. Taiwan Agricultural Yearbook 1987. Taiwan Provincial Government.
 1987-88: Monthly Bulletin of Statistics of the Republic of China (various issues).
- n 1961-90: 5% brokens, main market, Bangkok (except 1974 which is for 10% brokens).
 Sources: 1961-73: Pookkachatikul, T., and D. Welsch. 1974. Thai rice price. Department of Agricultural Economics, Kasetsart University, Bangkok.
 1974-82: Thailand National Statistical Office. Quarterly bulletin of statistics. Bangkok.
 1983-85: Thailand National Statistical Office. 1986. Statistical summary of Thailand. Office of the Prime Minister. Bangkok.
 1986-90: Thailand National Statistics Office. 1990 statistical yearbook. Thailand.
 1992-93: Department of Internal Trade Ministry of Agriculture.
- o Source: OSIRIZ/CIRAD/IRAT Database.
- P ... = data not available.

Land use

Table 32. Land use (000 000 ha), by country and geographical region, selected years.

	1961					
	Land area	Arable land	Permanent crops	Permanent pasture	Forest & woodland	Other land
WORLD	13082.36	1253.80	74.74	3140.58	4253.01	4389.96
ASIA	2679.16	402.75	23.98	616.39	607.14	1058.63
Afghanistan	65.21	7.65	0.05	30.00	2.00	25.51
Bangladesh	13.02	8.68	0.20	0.60	2.22	1.31
Cambodia	17.65	2.26	0.10	0.58	13.29	1.43
China	932.64	103.38	1.85	238.00	156.50	432.90
India	297.32	155.81	5.18	13.92	56.77	65.65
Indonesia	181.16	12.20	4.90	12.60	124.60	26.86
Iran	163.60	14.98	0.29	44.00	18.00	116.03
Iraq	43.74	4.60	0.10	4.10	2.01	32.92
Japan	37.65	5.55	0.35	0.11	25.56	6.08
Korea DPR	12.04	1.42	0.27	0.05	8.97	1.38
Korea Rep.	9.87	2.03	0.06	0.02	6.69	1.07
Lao PDR	23.08	0.64	0.01	0.90	15.60	5.93
Malaysia	32.86	0.83	3.15	0.02	258.20	3.03
Myanmar	65.80	9.90	0.22	0.31	32.17	23.20
Nepal	13.68	1.81	0.03	1.70	7.07	3.08
Pakistan	77.09	16.73	0.15	5.00	1.67	53.54
Philippines	29.83	4.44	1.80	0.81	17.15	5.63
Sri Lanka	6.47	0.60	0.94	0.19	1.88	2.86
Thailand	51.09	10.40	0.99	0.26	29.08	10.36
Turkey	76.96	23.01	2.15	11.35	20.17	20.28
Vietnam	32.55	5.55	0.47	0.27	14.25	12.01

	Land area	Arable land	Permanent crops	Permanent pasture	Forest & woodland	Other land
SOUTH AMERICA	1752.91	56.22	12.40	416.08	943.78	324.44
Argentina	273.67	18.28	1.16	147.00	61.10	46.14
Brazil	845.65	20.75	7.65	122.14	558.20	136.92
Colombia	103.87	3.53	1.44	33.00	59.00	6.90
Ecuador	27.68	1.71	0.81	2.20	18.15	4.82
Guyana	19.67	0.35	0.01	1.00	18.19	0.12
Peru	128.00	1.80	0.16	28.19	75.65	22.20
Surinam	15.60	0.03	0.01	0.01	14.99	0.57
Uruguay	17.48	1.33	0.05	13.85	0.59	1.66
Venezuela	88.21	2.83	0.65	15.75	38.59	30.39
N&C AMERICA	2178.19	254.18	5.38	373.52	719.42	825.70
Costa Rica	5.11	0.29	0.20	0.92	3.24	0.47
Cuba	10.98	1.55	0.10	1.90	2.12	5.31
Dominican Rep	4.84	0.72	0.27	2.09	0.67	1.08
Mexico	190.87	22.42	1.33	74.50	58.57	34.06
Panama	7.44	0.44	0.13	1.06	4.74	1.08
USA	957.31	180.63	1.88	265.00	307.70	202.10
AFRICA	2963.75	136.62	14.14	898.50	760.59	1153.91
Côte d'Ivoire	31.80	1.68	0.95	13.00	14.63	1.54
Egypt	99.55	2.50	0.07	- ^a	0.03	96.95
Guinea	24.57	0.55	0.11	5.50	16.32	2.09
Liberia	9.68	0.14	0.24	5.70	2.42	1.18
Madagascar	58.15	1.93	0.22	34.00	19.88	2.13
Mali	122.02	1.67	-	30.00	7.82	82.53
Nigeria	91.08	26.40	2.40	40.00	20.60	1.68
Sierra Leone	7.16	0.36	0.04	2.20	2.14	2.42
Tanzania	88.36	2.01	0.61	35.00	44.42	6.32
Zaire	226.71	6.57	0.38	15.00	183.66	21.10
EUROPE	472.94	137.72	13.65	89.60	142.42	89.55
Italy	29.41	12.86	2.75	5.08	5.85	2.88
Portugal	9.20	2.51	0.53	0.84	2.00	3.32
Spain	49.98	16.25	4.48	12.50	12.90	3.85
Former USSR	2190.07	235.40	4.40	302.00	890.00	758.27
OCEANIA	845.35	30.91	0.80	444.50	189.68	179.46
Australia	764.44	30.19	0.16	431.24	137.70	165.16

Table 32. Continued

	1970					
	Land area	Arable land	Permanent crops	Permanent pasture	Forest & woodland	Other land
WORLD	13082.46	1291.41	83.21	3206.62	4207.59	4293.22
ASIA	2679.25	412.33	27.21	650.06	592.59	996.96
Afghanistan	65.21	7.87	0.14	30.00	1.90	25.30
Bangladesh	13.02	8.89	0.21	0.60	2.22	1.10
Cambodia	17.65	2.15	0.15	0.58	13.21	1.56
China	932.64	100.08	2.43	273.00	146.62	410.51
India	297.32	160.61	4.45	12.99	66.04	53.23
Indonesia	181.16	13.00	5.08	12.40	122.80	27.88
Iran	163.60	15.15	0.55	0.04	18.00	85.90
Iraq	43.84	4.85	0.15	4.00	1.94	32.80
Japan	37.65	4.91	0.60	0.29	25.04	6.81
Korea DPR	12.04	1.51	0.28	0.05	8.97	1.23
Korea Rep.	9.87	2.15	0.15	0.03	6.63	0.92
Lao PDR	23.08	0.66	0.01	0.80	14.70	6.91
Malaysia	32.86	0.92	3.51	0.03	23.66	4.74
Myanmar	65.80	9.97	0.46	0.37	32.17	22.82
Nepal	13.68	1.95	0.03	1.70	6.25	3.76
Pakistan	77.09	19.17	0.17	5.00	2.83	49.92
Philippines	29.83	4.62	2.33	0.84	15.90	6.14
Sri Lanka	6.46	0.81	1.08	0.44	1.82	2.31
Thailand	51.09	12.30	1.51	0.44	22.28	14.56
Turkey	76.96	24.79	2.59	10.80	20.17	18.62
Vietnam	32.55	5.63	0.52	0.27	13.80	12.33

	Land area	Arable Land	Permanent Crops	Permanent pasture	Forest & woodland	Other land
SOUTH AMERICA	1752.91	68.47	13.92	448.88	913.84	307.80
Argentina	273.67	23.85	2.18	144.50	60.65	42.49
Brazil	845.65	26.00	7.98	154.14	541.55	115.98
Colombia	103.87	3.57	1.46	35.45	56.30	7.09
Ecuador	27.68	1.73	0.83	2.30	16.25	6.58
Guyana	19.67	0.36	0.01	1.00	18.19	0.11
Peru	128.00	2.56	0.26	27.12	73.40	24.67
Surinam	15.60	0.03	0.01	0.01	14.94	0.61
Uruguay	17.48	1.38	0.05	13.63	0.61	1.82
Venezuela	88.21	2.84	0.66	16.43	35.98	32.30
N&C AMERICA	2178.19	262.93	5.73	357.87	710.56	841.10
Costa Rica	5.11	0.29	0.21	1.36	2.57	0.68
Cuba	10.98	2.31	0.30	2.41	2.30	3.66
Dominican Rep	4.84	0.82	0.32	2.09	0.66	0.96
Mexico	190.87	21.69	1.45	74.50	53.80	39.43
Panama	7.44	0.43	0.11	1.14	4.47	1.29
USA	957.31	188.74	1.77	243.90	304.95	217.96
AFRICA	2963.75	146.04	15.85	893.29	737.89	1170.68
Côte d'Ivoire	31.80	1.70	1.07	13.00	12.38	3.65
Egypt	99.55	2.73	0.12	-	0.03	96.67
Guinea	24.57	0.57	0.11	5.50	15.78	2.61
Liberia	9.68	0.13	0.24	5.70	2.24	1.37
Madagascar	58.15	2.06	0.31	34.00	18.53	3.25
Mali	122.02	1.75	-	30.00	7.55	82.72
Nigeria	91.08	27.42	2.48	40.00	17.90	3.28
Sierra Leone	7.16	0.40	0.05	2.20	2.14	2.37
Tanzania	88.36	2.10	0.62	35.00	43.34	7.30
Zaire	226.71	6.77	0.48	15.00	180.86	23.60
EUROPE	472.95	131.39	14.41	88.66	150.51	87.65
Italy	29.41	11.98	2.95	5.25	6.16	3.07
Portugal	9.20	2.47	0.62	0.84	2.50	3.00
Spain	49.98	15.69	4.83	11.60	14.20	3.66
Former USSR	2190.07	227.80	5.20	314.65	913.00	729.42
OCEANIA	845.35	42.44	0.89	453.21	189.19	159.61
Australia	764.44	41.61	0.17	440.00	137.70	144.96

Table 32. Continued

	1980					
	Land area	Arable land	Permanent crops	Permanent pasture	Forest & woodland	Other land
WORLD	13082.08	1322.47	91.34	3281.26	4251.21	4135.80
ASIA	2679.03	419.12	30.22	694.25	561.84	973.60
Afghanistan	65.21	7.91	0.14	30.00	1.90	25.26
Bangladesh	13.02	8.91	0.25	0.60	2.19	1.07
Cambodia	17.65	1.61	0.09	0.58	13.16	2.21
China	932.64	97.20	3.21	334.00	135.27	362.97
India	297.32	164.74	3.51	12.10	67.48	49.48
Indonesia	181.16	14.20	5.35	12.00	117.60	32.01
Iran	163.60	12.98	0.73	44.00	18.00	87.89
Iraq	43.74	5.25	0.19	4.00	1.91	32.39
Japan	37.65	4.29	0.59	0.58	25.20	6.99
Korea DPR	12.04	1.61	0.29	0.05	8.97	1.12
Korea Rep.	9.87	2.06	0.14	0.05	6.57	1.06
Lao PDR	23.08	0.67	0.02	0.80	13.74	7.86
Malaysia	32.86	1.00	3.80	0.03	21.15	6.88
Myanmar	65.74	9.57	0.45	0.36	32.05	23.30
Nepal	13.68	2.29	0.03	1.89	5.55	3.92
Pakistan	77.09	19.99	0.31	5.00	2.85	48.94
Philippines	29.82	5.20	3.51	1.00	12.46	7.65
Sri Lanka	6.46	0.87	1.00	0.44	1.76	2.39
Thailand	51.09	16.52	1.78	0.64	16.55	15.60
Turkey	76.96	25.35	3.13	10.10	20.20	18.19
Vietnam	32.55	5.94	0.63	0.29	11.95	13.74

1980

	Land area	Arable land	Permanent Crops	Permanent pasture	Forest & woodland	Other land
SOUTH AMERICA	1752.93	84.63	16.64	473.05	873.86	304.76
Argentina	273.67	25.00	2.20	143.20	60.05	43.22
Brazil	845.65	38.63	10.47	171.41	518.34	106.80
Colombia	103.87	3.71	1.49	38.17	53.30	7.20
Ecuador	27.68	1.54	0.92	4.02	13.95	7.26
Guyana	19.69	0.48	0.02	1.22	16.37	1.60
Peru	128.00	3.22	0.30	27.12	70.90	26.46
Surinam	15.60	0.04	0.01	0.02	14.89	0.64
Uruguay	17.48	1.40	0.05	13.63	0.63	1.77
Venezuela	88.21	3.08	0.68	17.20	33.08	34.18
N&C AMERICA	2178.18	267.20	6.44	358.57	707.57	838.40
Costa Rica	5.11	0.28	0.22	2.01	1.83	0.76
Cuba	10.98	2.53	0.68	2.61	2.50	2.68
Dominican Rep	4.84	1.07	0.35	2.09	0.64	0.69
Mexico	190.87	23.00	1.53	74.50	47.84	44.00
Panama	7.44	0.44	0.12	1.30	4.17	1.42
USA	957.31	188.76	1.87	237.54	294.70	234.45
AFRICA	2963.67	153.86	17.56	893.73	712.07	1186.44
Côte d'Ivoire	31.80	1.96	1.14	13.00	9.88	5.83
Egypt	99.55	2.29	0.16	-	0.03	97.07
Guinea	24.57	0.59	0.11	5.50	15.18	3.19
Liberia	9.68	0.13	0.25	5.70	2.05	1.56
Madagascar	58.15	2.51	0.49	34.00	17.03	4.12
Mali	122.02	2.05	-	30.00	7.26	82.71
Nigeria	91.08	27.85	2.54	40.00	14.90	5.79
Sierra Leone	7.16	0.45	0.05	2.20	2.11	2.35
Tanzania	88.36	2.20	0.63	35.00	42.14	8.39
Zaire	226.71	7.05	0.55	15.00	177.61	26.50
EUROPE	472.87	126.50	14.44	86.37	155.81	89.75
Italy	29.41	9.48	2.95	5.13	6.36	5.49
Portugal	9.20	2.42	0.72	0.84	2.85	2.37
Spain	49.95	15.56	4.94	10.74	15.60	3.11
Former USSR	2190.07	226.42	5.10	321.80	1083.00	553.75
OCEANIA	845.35	44.76	0.94	453.50	157.06	189.10
Australia	764.44	44.03	0.16	438.74	105.88	175.63

Table 32. Continued

	1990					
	Land area	Arable land	Permanent crops	Permanent pasture	Forest & woodland	Other land
WORLD	13081.95	1345.08	95.29	3396.47	3890.13	4355.00
ASIA	2679.03	424.34	33.91	798.85	532.33	889.60
Afghanistan	65.21	7.91	0.14	30.00	1.90	25.26
Bangladesh	135.02	9.20	0.24	0.60	1.90	1.08
Cambodia	17.65	2.15	0.05	1.80	12.00	1.65
China	932.64	93.28	3.28	400.00	126.52	309.56
India	297.32	165.87	3.57	11.60	67.76	48.52
Indonesia	181.16	16.00	6.00	11.80	109.80	37.56
Iran	163.60	16.15	1.37	44.00	18.02	84.06
Iraq	43.74	5.25	0.20	4.00	1.89	32.40
Japan	37.65	4.12	0.48	0.65	25.11	7.30
Korea DPR	12.04	1.70	0.30	0.05	8.97	1.02
Korea Rep.	9.87	1.95	0.16	0.09	6.48	1.20
Lao PDR	23.08	0.81	0.02	0.80	12.56	8.89
Malaysia	32.86	1.04	3.84	0.03	19.41	8.54
Myanmar	65.76	9.57	0.50	0.36	32.40	22.93
Nepal	13.68	2.32	0.03	2.00	5.37	3.96
Pakistan	77.09	20.50	0.46	5.00	3.45	47.68
Philippines	29.82	5.48	3.65	1.26	10.35	9.08
Sri Lanka	6.46	0.93	0.98	0.44	2.08	2.04
Thailand	51.09	17.17	3.11	0.78	14.00	16.03
Turkey	76.96	24.65	3.03	12.00	20.20	17.09
Vietnam	32.55	5.34	1.05	0.34	9.40	16.43

1990

	Land area	Arable land	Permanent crops	Permanent pasture	Forest & woodland	Other land
SOUTH AMERICA	1752.93	97.57	16.30	493.71	829.39	315.97
Argentina	275.67	25.00	2.20	142.20	59.20	45.07
Brazil	845.65	50.40	9.60	184.20	493.03	108.42
Colombia	103.87	3.90	1.52	40.40	50.30	7.75
Ecuador	27.68	1.60	1.32	4.92	10.90	8.94
Guyana	19.69	0.48	0.02	1.23	16.37	1.59
Peru	128.00	3.40	0.33	27.12	68.40	28.75
Surinam	15.60	0.06	0.01	0.02	14.86	0.66
Uruguay	17.48	1.26	0.04	13.52	0.67	1.99
Venezuela	88.21	3.20	0.70	17.70	30.18	36.44
N&C AMERICA	2178.18	264.84	6.87	362.06	709.37	835.03
Costa Rica	5.11	0.29	0.24	2.33	1.64	0.61
Cuba	10.98	2.61	0.72	2.97	2.30	2.38
Dominican Rep	4.84	1.00	0.45	2.09	0.62	0.69
Mexico	190.87	23.15	1.56	74.50	42.46	49.20
Panama	7.44	0.50	0.16	1.47	3.30	2.02
USA	957.31	185.74	2.03	239.17	287.40	242.96
AFRICA	2963.67	162.21	18.73	899.35	683.80	1199.59
Côte d'Ivoire	31.80	2.43	1.26	13.00	7.38	7.73
Egypt	-	2.28	0.36	-	0.03	96.87
Guinea	24.57	0.61	0.12	5.50	14.58	3.76
Liberia	9.68	0.13	0.25	5.70	1.74	1.86
Madagascar	58.15	2.58	0.52	34.00	15.53	5.52
Mali	122.02	2.09	-	30.00	6.95	82.98
Nigeria	91.08	29.77	2.54	40.00	11.90	6.88
Sierra Leone	7.16	0.49	0.05	2.20	2.06	2.36
Tanzania	88.36	2.73	0.64	35.00	40.94	9.05
Zaire	226.71	7.25	0.61	15.00	174.31	29.54
EUROPE	472.74	124.69	13.97	83.25	157.57	93.26
Italy	29.41	9.01	2.96	4.88	6.76	5.80
Portugal	9.20	2.37	0.80	0.84	3.21	1.98
Spain	49.94	15.34	4.84	10.30	15.81	3.67
Former USSR	2190.07	224.40	4.52	327.30	820.40	813.45
OCEANIA	845.35	47.04	1.00	431.94	157.28	208.11
Australia	764.44	46.26	0.18	417.86	106.00	194.15

^a - = magnitude zero.

Source: FAO AGROSTAT 1993.

Irrigation development

Table 33. Irrigation development expenditures at current prices, selected Asian countries, 1961-93.

YEAR	Bangladesh ^a (mn taka)	Indonesia ^b (mn rupiah)	Korea Rep ^c (mn won)	Myanmar ^d (mn Kyats)	Philippines ^e (mn peso)	Sri Lanka ^f (mn rupee)	Thailand ^g (mn baht)
1961	...	...	...	...	12	66	262
1962	...	...	...	...	18	61	373
1963	...	...	...	...	21	45	430
1964	...	...	...	...	9	53	311
1965	...	...	...	...	11	76	394
1966	...	...	...	...	3	61	540
1967	...	...	3470	...	16	100	816
1968	...	...	4247	...	36	113	977
1969	...	20706	19870	...	33	126	1117
1970	...	19668	15010	121.8	34	125	1236
1971	...	21326	8705	...	81	92	1151
1972	319	24829	10758	...	138	100	961
1973	1323	27900	9135	...	259	155	635
1974	566	118279	12816	...	606	130	834
1975	913	98252	924946	...	876	186	1301
1976	767	114906	36961	...	899	208	1527
1977	907	150740	45587	...	972	211	1611
1978	1321	204887	67921	...	1116	469	1974
1979	1984	226989	76954	...	1394	832	1888
1980	2325	349812	73133	70.8	2143	1179	2476
1981	2778	428696	143164	...	2262	2520	3419
1982	2580	475612	150828	...	2348	3498	3932
1983	3212	387119	169125	...	1958	3521	4186
1984	3622	516900	162489	...	1787	3407	4234
1985	3079	562200	138548	...	1671	3533	4244
1986	3121	372200	149578	...	1781	3003	3903
1987	3295	505000	160367	...	1598	3378	3338
1988	3436	338300	205793	...	2106	2758	...
1989	...	...	228566	...	2233	2784	...
1990	...	...	216606	4019.0	2481	3579	...
1991	...	...	229027	15.7	1948	4204	...
1992	...	...	283207	240.7	2357	3843	...
1993	...	...	250335	373.3	...	3555	...

^a Source: Planning Commission. Annual Development Program on Irrigation (unpublished data).^b Source: Rosegrant, M.W., and E. Pasandaran. 1990. Irrigation investment in Indonesia: trends and determinants. International Food Policy Research Institute, Washington, D.C.^c Source: Yearbook of land and water development statistics (various issues).^d Data under 1970 data relate to projects completed during 1961-62 to 1970-71, 1980 data relate to projects completed during 1971-72 to 1980-81 and 1990 data relate to projects completed during 1981-82 to 1990-91.^e Source: Ministry of Planning and Finance.^f Source: Azarcon Y. 1990. Public investments in irrigation in the Philippines. MS thesis, Cornell University, New York.^g Source: National Irrigation Administration, Quezon City, Philippines.^h Source: Aluwihare, P.S., and M. Kikuchi. 1990. Irrigation investment trends in Sri Lanka: new construction and beyond. International Irrigation Management Institute, Colombo.ⁱ Source: 1989-93: Public investment. Department of Policy Planning and Implementation, Sri Lanka.^j Source: Rosegrant, M.W., and Dow Mongkolsmai. 1990. Trends and determinants of irrigation investment in Thailand. International Food Policy Research Institute, Washington, D.C.^k ... = data not available.

Table 34. Irrigated rice area (000 ha), selected Asian countries, 1961-93.

YEAR	Bangla- desh ^a	India ^b	Indo- nesia ^c	Japan ^d	Korea Rep ^e	Myanmar ^f	Nepal ^g
1961	368	12985	...	3134	665	473	...
1962	433	13361	...	3134	682	499	...
1963	457	13254	...	3133	684	663	...
1964	446	13556	...	3126	686	683	...
1965	488	12909	...	3123	701	633	...
1966	517	13305	...	3129	729	662	...
1967	568	13923	...	3149	744	691	...
1968	802	13780	...	3171	746	741	...
1969	902	14199	...	3173	983	722	...
1970	1011	14339	...	2836	1021	736	...
1971	962	14082	...	2626	1022	753	...
1972	1046	14417	5736	2581	1028	732	...
1973	1145	14668	5196	2568	1042	826	...
1974	1277	14673	5352	2675	1050	872	...
1975	1218	15220	5608	2719	1065	875	103
1976	980	14772	5792	2741	1082	831	107
1977	1212	16196	5960	2723	1104	857	127
1978	1177	16861	5867	2516	1121	909	135
1979	1230	16908	5713	2468	866	833	157
1980	1259	16340	5928	2350	893	873	198
1981	1339	17114	6050	2251	908	865	208
1982	1459	16073	...	2230	917	805	219
1983	1502	17720	6489	2246	929	838	233
1984	1582	18006	...	2290	935	861	251
1985	1613	17677	...	2318	948	858	291
1986	1717	18082	7769	2280	965	875	302
1987	1957	16971	8012	2123	976	798	...
1988	2221	18725	...	2087	981	835	...
1989	2406	19200	...	2076	985	852	...
1990	2479	19200	...	2055	987	869	...
1991	2706	19039	7403	2033	988	835	325
1992	2710	...	...	2092	973	957	...
1993	...	...	...	...	975	...	...

Table 34. Continued

YEAR	Pakis- tan ^h	Philip- pines ⁱ	Sri Lanka ^j	Taiwan, China ^k	Thai- land ^l	Viet- nam ^m
1961	1214	951	368	762	1404	...
1962	1186	1096	362	775	1574	...
1963	1286	914	364	733	1662	...
1964	1356	953	388	751	1635	...
1965	1393	971	356	760	1744	...
1966	1410	1166	374	775	1745	...
1967	1420	1217	388	775	1744	...
1968	1555	1470	390	778	1735	...
1969	1622	1386	424	776	1764	...
1970	1503	1432	459	766	1758	...
1971	1456	1411	451	745	1853	...
1972	1480	1356	421	735	1791	...
1973	1512	1448	424	718	1808	...
1974	1604	1438	459	772	1829	...
1975	1710	1492	437	785	1845	...
1976	1749	1548	402	781	1909	1920
1977	1899	1542	422	774	1923	2050
1978	2026	1527	503	749	1959	1920
1979	2035	1535	519	719	2022	2190
1980	1933	1609	524	637	2006	2250
1981	1976	1656	531	666	2100	2310
1982	1978	1741	542	659	2180	2380
1983	1999	1668	527	645	2111	2430
1984	1999	1755	633	586	2307	2490
1985	1863	1838	599	564	2376	2510
1986	2066	1878	607	531	2376	2539
1987	1963	1852	524	501	2390	2564
1988	2042	1956	558	...	2338	2639
1989	2107	2064	553	...	2485	3141
1990	2113	2010	476	...	2067	3195
1991	2097	2060	553	...	...	3336
1992	1973	1980	479	...	2206	...
1993	2207	2017	548	...	...	...

- ^a Sources: 1961-92: Bangladesh Bureau of Statistics. Bangladesh statistical yearbook. Dhaka (various issues).
- ^b Source: India Directorate of Economics and Statistics, Ministry of Agriculture. Agricultural situation in India. New Delhi (various issues).
- ^c Sources: 1972-73. Badan Pengendali Bimas. 1975. *Kompilasi Data Pelaksanaan Program Intensifikasi Padi Setanan PELITA I*. Jakarta.
 1974-77: Badan Pengendali Bimas. 1984. *Kompilasi Data Luas Tanam, Luas Panem, Hasil Per Ha Dan Produksi Padi Serta Palawija Di Indonesia Selama PELITA II, 1974-78*. Jakarta.
 1978-83: Satuan Pengendali Bimas. 1983. *Evaluasi Tengah PELITA III. Pelaksanaan Program Intensifikasi Tanaman Pangan BUKU II*. Jakarta.
 1986-87: Biru Pusat Statistik. 1988 and 1989. *Indikator Pertanian 1986 and 1987*. Jakarta.
- ^d Data for rice area irrigated as a specific category are not generally collected. It is assumed that wetland rice area may be used as proxy for irrigated area. Source of wetland rice area: Japan Ministry of Agriculture, Forestry, and Fisheries. Monthly statistics of agriculture, forestry & fisheries (various issues).
- ^e Includes completely irrigated and area benefited by an irrigation association. Excludes partially irrigated area.
- Source: 1961-78: Rose, B. 1985. Appendix to the rice economy of Asia. Resources for the Future, Inc., Washington, D.C.
- 1979-93: Central Statistical Organization. Statistical yearbook (various issues).
- ^f Sources: 1977-87: Burma Ministry of Planning and Finance. Report to the Pyithu Hluttaw on the financial and social conditions of the Socialist Republic of Burma (various issues).
- ^g Source: Thapa, G.B. 1989. The impact of new agricultural technology on income distribution in the Nepalese Tarai. PhD Thesis. Cornell University, USA.
- ^h Assumed to be 100% of total rice area.
- Sources: Pakistan Ministry of Food, Agriculture and Cooperatives. Agricultural statistics of Pakistan. Islamabad (various issues).
- ⁱ Sources: Bureau of Agricultural Statistics. Department of Agriculture. Paddy production, area and yield by crop type and variety and rice and corn situation and outlook. Quezon City (various issues).
- ^j 1961-93: Department of Census and Statistics. Statistics abstract of the Democratic Republic of Sri Lanka. Colombo (various issues).
- ^k Source: Taiwan Council of Agriculture. Executive Yuan (unpublished data).
- ^l Source: Thailand Ministry of Agriculture and Cooperatives, Royal Irrigation Department. Bangkok (unpublished data).
- ^m Source: National Institute of Agricultural Planning and Projection. Ministry of Agriculture. Socialist Republic of Vietnam (unpublished data).
- ⁿ ... = data not available.

Table 35. Irrigated rice area (000 ha) in India, by state, 1969-88.

YEAR	INDIA	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Jammu & Kashmir	Karnataka
1969	14199	3283	532	1886	138	206	209	739
1970	14339	3321	532	1772	138	235	222	720
1971	14082	2859	532	1759	165	253	174	770
1972	14417	2751	532	1597	165	263	213	711
1973	14668	3205	532	1674	127	258	219	722
1974	14673	3380	532	1473	91	257	218	701
1975	15220	3679	532	1646	146	274	228	764
1976	14772	3341	532	1738	149	305	233	543
1977	16196	3454	532	1984	165	347	236	686
1978	16861	3751	532	1941	180	426	241	688
1979	16908	3283	532	1707	186	478	240	729
1980	16340	3378	532	1898	200	469	242	694
1981	17114	3610	532	1888	232	483	240	730
1982	16073	3426	532	1514	237	481	245	685
1983	17720	3926	532	1603	267	509	243	742
1984	18006	3306	532	1840	276	548	245	734
1985	17677	3250	532	1912	249	577	240	624
1986	18082	3259	532	1921	249	620	241	711
1987	16971	3068	532	1820	249	462	239	605
1988	18725	4027	532	1923	249	595	244	818

Sources: 1955-68: India Directorate of Economics and Statistics, Ministry of Agriculture Fertilizer statistics, Fertilizer Association of India, New Delhi (various issues). 1969-86: India Directorate of Economics and Statistics, Ministry of Agriculture and Rural Development. 1986. Irrigated area under rice (unpublished).

Kerala	Madhya Pradesh	Maha-rashtra	Orissa	Punjab	Tamil Nadu	Uttar Pradesh	West Bengal	YEAR
477	675	314	1224	324	2321	741	1353	1969
489	620	314	1397	358	2425	745	1353	1970
499	666	319	1397	413	2484	677	1353	1971
510	659	345	1100	436	2631	841	1353	1972
525	601	340	1041	464	2485	787	1353	1973
539	572	349	1080	542	2028	921	1353	1974
274	610	219	1195	532	2379	862	1353	1975
321	730	359	1127	640	2018	982	1353	1976
255	765	378	1165	817	2581	1095	1353	1977
272	821	393	1161	1014	2556	1118	1353	1978
287	802	397	1155	1140	2708	1515	1353	1979
277	819	392	1192	1158	2105	1221	1353	1980
275	826	398	1192	1246	2306	1414	1353	1981
279	686	367	1192	1302	1787	1435	1381	1982
287	867	372	1436	1462	2196	1501	1368	1983
313	457	379	1347	1622	2331	1805	1368	1984
282	900	397	1434	1693	2081	1857	1251	1985
298	1053	397	1460	1764	1789	2126	1251	1986
256	977	318	1395	1704	1766	1932	1251	1987
249	994	318	1556	1754	1717	2088	1251	1988

Rice ecosystems

Table 36. Distribution of rice crop area (000 ha), by environment, 1991.

Major rice-consuming and -producing countries	Total rice area (000 ha)	Distribution of rice area (%)			
		Irrigated	Rainfed lowland	Flood-prone	Upland
ASIA	132,240	55	29	8	8
Bangladesh	10,245	22	47	23	8
Cambodia	1,910	8	48	42	2
China ^a	33,019	93	5	-	2
India	42,308	45	33	7	15
Indonesia	10,282	72	7	10	11
Japan	2,049	99	.b	-	1
Korea, DPR	1,200	67	20	-	13
Korea, Rep.	1,208	91	8	-	1
Lao PDR	557	2	61	-	37
Malaysia	691	66	21	1	12
Myanmar	4,575	18	52	24	6
Nepal	1,412	23	66	8	3
Pakistan	2,097	100	-	-	-
Philippines	3,425	61	35	2	2
Sri Lanka	791	37	53	3	7
Thailand	9,271	7	86	7	1
Vietnam	6,303	53	28	11	8
LATIN AMERICA	6,299	33	7	2	59
Brazil	4,122	19	6	0.2	75
Colombia	435	67	10	-	23
Cuba	137	100	-	-	-
Dominican Rep	97	93	7	-	-
Ecuador	284	54	7	39	-
Guyana	76	71	29	-	-
Peru	158	80	20	-	-
Surinam	60	93	7	-	-
Uruguay	103	100	-	-	-
AFRICA	7,034	17	21	20	42
Côte d'Ivoire	625	6	-	7	87
Egypt	462	100	-	-	-
Guinea	825	5	-	48	47
Liberia	140	-	-	6	96
Madagascar	1,140	10	74	2	14
Sierra Leone	384	-	-	37	63
Nigeria	1,642	16	-	33	51
AUSTRALIA	89	100	-	-	-
USA	1,123	100	-	-	-
REST OF WORLD	1,031	88	-	-	12
WORLD	147,816	53	27	8	12

^a Including Taiwan province.

b. - = magnitude zero.

Sources: FAO AGROSTAT 1994. FAO, Rome.

IRRI RICESTAT 1994.

Size of
farmholdings

Table 37. Number of farms, by size and distribution, selected Asian countries, selected years.

COUNTRY	Census year	Total no. of holdings (000)	Farm size					
			Holding without land ^a	Under 1 ha	1 ha & under 2	2 ha & under 5	5 ha & under 10	10 ha & above
Bangladesh	1960	6139	.. ^b	3170	1615	1140	188	26
	1983 ^c	10045	-	7066	1806	1008	148	17
India ^d	1960	48882	-	19897	10879	11547	4245	2314
	1970	71011	-	36200	13432	13365	5248	2766
	1976	81569	-	44523	14728	14497	5381	2440
	1980	88883	-	50122	16072	12455 ^e	8068 ^f	2166
Indonesia	1985	97731	-	56748	17881	13253 ^g	7920 ^f	1929
	1963	12237	-	8577	2223	1124	222	91
	1973 ^g	14374	-	10115	2598	1353	224	84
	1983 ^g	15927	-	10482	3166	1896	301	82
Japan	1960	6056	-	3911	1587	454	68	36
	1970	5354	-	3639	1286	346	71	12
	1985 ^h	4376	11	3046	891	351	76 ⁱ	-
Korea Rep	1961	2332	-	1655	562	115	-	-
	1969	2421	20	1600	640	161	-	-
	1979 ^j	2162	82	1407	556	117 ^k	... ^b	...
Malaysia W	1960	450	-	204	99	115	27	5
Nepal ^l	1961	1540	22	852	467	144	40	15
	1971	1735	14	1335	217	119	37	13
	1981	2194	8	1455	379	277	60	15
	1991	2736	32	1878	529	257	32	8
Pakistan	1960	5691	831	1598	806	1340	729	387
	1972	3762	-	521	538	1501	794	408
	1980 ⁿ	4400	-	878	759	1665	718	380
Philippines	1960	2166	-	250	642	864	290	120
	1971	2354	-	319	644	1032	244	116
	1980 ⁿ	3420	-	776	964	1202	360	118
	1991 ^o	4610	-	1685	1314	1178	325	108
Sri Lanka	1961	1170	-	764	222	146	25	13
	1973	1645	10	1162	278	163	22	11
	1982 ^p	1791	-	1390	236	129	36 ^l	-
Thailand	1963 ^q	3214	-	595	945	884	617	174
	1983 ^r	4471	-	662	552	2581	676	-
	1988 ^r	9532	1927 ^s	867	879	4633	1225	-

- ^a Establishments or units with no agricultural land but which raise or produce livestock and livestock products, e.g. piggeries, hatcheries, dairy farms.
- Sources: FAO. 1971 and 1981. 1960 and 1970 World census of agriculture, Analysis and international comparison of the results. Rome, unless otherwise specified. 1970-85: Techno Economic Research Institute 1990.
- Agricultural statistical compendium, Vol. 1. New Delhi.
- ^b - = magnitude zero, ... = data not available.
- ^c Source: Bangladesh Bureau of Statistics. 1986. The Bangladesh census of agriculture and livestock, 1983-84. Dhaka.
- ^d Source: Directorate of Economics and Statistics. Indian agriculture in brief. 20th edition. New Delhi.
- ^e Includes 2.0 to 4.0 ha.
- ^f Includes 4.0 ha and under 10.
- ^g Source: Biro Pusat Statistik. 1985. Sensus Pertanian 1983. Jakarta.
- ^h Source: Ministry of Agriculture and Fisheries. 1986. The 61st statistical yearbook of Ministry of Agriculture, Forestry and Fisheries, 1984-85. Japan.
- ⁱ Includes 10 ha and above.
- ^j Source: Ministry of Agriculture and Fisheries. 1981. Yearbook of agriculture and forestry statistics. Republic of Korea.
- ^k Includes 5 ha and above.
- ^l Source: Central Bureau of Statistics. 1986. A comparative study of the national sample censuses of agriculture of Nepal. Kathmandu. Central Bureau of Statistics 1993. National sample census of agriculture 1991-92 Nepal. Kathmandu.
- ^m Source: Federal Bureau of Statistics 1989. Pakistan statistical yearbook. 1989. Karachi.
- ⁿ Source: National Economic and Development Authority. 1987. Philippine statistical yearbook, 1987. Manila.
- ^o Source: National Statistics Office. 1991 Census of agriculture. Preliminary report, 1994.
- ^p Size categories: under 1.2 ha, 1.2-2.02, 2.02-4.05, and 4.05 and over
- Source: Department of Census and Statistics. 1988. Agricultural statistics of Sri Lanka, 1988. Colombo.
- ^q Size categories: under 0.96 ha, 0.96-2.40, 2.40-4.80, 4.80-9.6, and 9.60 and over.
- ^r Size categories: under 0.96 ha, 0.96-1.58, 1.6-6.38, and 6.40 and over.
- Source: National Statistical Office. 1984. 1983 Intercensal survey of agriculture. National Statistical Office. 1989. 1988 Intercensal survey of agriculture.
- ^s Includes holdings without land, built-on areas, wasteland, parks, ornamental gardens, roads, lanes, etc.

Table 38. Number and area of farm holdings, selected Asian countries, selected years.^a

COUNTRY	Census year	All holdings		Rice holdings	
		No. (000)	Area (000 ha)	No. (000)	Area (000 ha)
Bangladesh ^b	1960	6139	8792	5654	8548
	1983	10045	9178	...	...
India	1960	48882	123047	...	33820
	1970 ^d	71011	162138	...	...
	1976 ^d	81569	163344	...	...
	1980	88883	163797	...	...
	1985	97731	163913	...	...
Indonesia	1963	12237	10943	9202	5766
	1973 ^e	14374	14168	...	...
	1983 ^e	15927	16689	...	...
Japan	1960	6056	7142	...	...
	1970	5354	5389	4654	3274
	1985 ^f	4376	...	...	...
Korea Rep	1961	2332	4815	2066	1054
	1969	2421	2132	2099	1185
	1979 ^g	2162	1846	...	...
Malaysia, West	1960	450	906	132	276
Myanmar ^h	1979	4270	9729	...	...
Nepal ⁱ	1961	1494	1841	...	...
	1971	1735	1654	1203	995
	1981	2194	2464	1035	1394
	1991	2736	2599	2281	1481
Pakistan	1960	5691	19801	6570	9849
	1972	3762	19913	1014	1789
	1980 ^j	4400	10662	...	...
Philippines ^k	1960	2166	7772	1042	3112
	1971	2354	8494	982	2661
	1980	3420	9725	1867	3650
	1991	4610	10000	...	...
Sri Lanka ^l	1962	1165	1265	568	459
	1982	1791	1436	781	...
Thailand	1963	3214	10836	2651	5957
	1983 ^m	4471	15916	3623	9779
	1985 ⁿ	4878	20577	...	11824
	1988 ^{no}	9532	17464	3797	10067

- ^a Sources: FAO. 1971 and 1981. 1960 and 1970 World census of agriculture, analysis and international comparison of the results. Rome, unless otherwise specified.
- ^b Source: Bangladesh Bureau of Statistics. 1986. Statistical yearbook of Bangladesh. Dhaka.
- ^c ... = data not available.
- ^d Source: 1970,1976: Directorate of Economics and Statistics. 1985. Indian agriculture in brief. 20th edition. New Delhi.
- ^e Source: 1973 and 83: Biro Pusat Statistik. 1985. Sensus Pertanian 1983. Jakarta.
- ^f Source: Ministry of Agriculture and Fisheries. 1986. The 61st statistical yearbook of Ministry of Agriculture, Forestry and Fisheries 1984/85. Japan.
- ^g Source: Ministry of Agriculture and Fisheries. 1981. Yearbook of agriculture and forestry statistics. Republic of Korea.
- ^h Source: Burma Ministry of Agriculture and Forestry. 1981. Notes on agriculture in Burma.
- ⁱ Source: 1971-81: Central Bureau of Statistics. 1986. A comparative study of the national sample censuses of agriculture of Nepal. Kathmandu.
1991: Central Bureau of Statistics. 1993. National sample census of agriculture 1991-92 Nepal. Kathmandu.
- ^j Source: Federal Bureau of Statistics 1989. Pakistan statistical yearbook 1989. Karachi.
- ^k Sources: National Economic and Development Authority. Philippine statistical yearbook. Manila (various issues).
- ^l Source: Department of Census and Statistics. 1988: Agricultural statistics of Sri Lanka, 1988. Colombo.
- ^m Source: National Statistical Office. 1984. 1983 Intercensal survey of agriculture. Thailand. Bangkok.
- ⁿ Source: Ministry of Agriculture and Cooperatives. 1987. Agricultural statistics of Thailand. Bangkok.
- ^o Includes holdings without land.

Population,
labor force, and
wages

Table 39. Total and agricultural population, and total and agricultural labor force (in millions), by country and geographical region, 1961-93.

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricul- tural population	Total labor force	Agricul- tural labor force
		Rural	Urban			
WORLD						
1961	3075.0	2013.6	1061.3	1777.3	1368.6	819.7
1970	3697.1	2344.8	1352.3	1972.9	1598.4	878.9
1980	4446.8	2694.8	1752.0	2196.0	1956.3	993.1
1990	5294.9	3012.8	2282.1	2389.1	2363.7	1100.7
1991	5387.3	3043.7	2343.6	2408.3	2403.5	1108.6
1992	5480.1	3073.9	2406.2	2427.1	2443.1	1116.1
1993	5572.3	3103.1	2469.2	2445.5	2482.3	1123.1
ASIA						
1961	1699.8	1330.4	369.4	1236.2	781.8	584.7
1970	2101.8	1620.0	481.7	1435.1	932.1	654.0
1980	2583.9	1905.8	678.1	1638.5	1156.9	760.2
1990	3118.0	2143.6	974.4	1792.8	1439.7	861.5
1991	3175.8	2166.1	1009.7	1806.9	1466.8	868.5
1992	3233.9	2188.2	1045.7	1820.6	1493.5	874.9
1993	3292.3	2209.5	1082.8	1833.9	1519.9	880.8
Afghanistan						
1961	11.0	10.1	0.9	7.8	3.4	2.4
1970	13.6	12.1	1.5	9.0	4.1	2.7
1980	16.1	13.5	2.5	9.8	4.8	2.9
1990	16.6	13.5	3.0	9.1	4.9	2.7
1991	17.7	14.4	3.3	9.6	5.2	2.8
1992	19.1	15.5	3.6	10.2	5.7	3.0
1993	20.5	16.6	3.9	10.8	6.1	3.2
Bangladesh						
1961	52.7	49.9	2.8	45.1	17.8	15.2
1970	66.7	61.6	5.1	54.3	20.5	16.7
1980	88.2	78.3	10.0	66.0	25.3	18.9
1990	113.7	95.0	18.7	77.9	34.4	23.6
1991	116.4	96.6	19.8	79.0	35.5	24.1
1992	119.3	98.2	21.0	80.2	36.6	24.6
1993	122.2	99.9	22.3	81.3	37.6	25.0
Cambodia						
1961	5.6	5.0	0.6	4.5	2.5	2.1
1970	6.9	6.1	0.8	5.4	3.1	2.4
1980	6.5	5.8	0.7	4.8	2.8	2.1
1990	8.3	7.4	1.0	5.8	3.4	2.4
1991	8.6	7.5	1.0	5.9	3.5	2.5
1992	8.8	7.7	1.1	6.1	3.6	2.5
1993	9.0	7.9	1.1	6.2	3.7	2.5
China						
1961	666.2	539.6	126.6	551.5	351.5	291.0
1970	830.7	685.7	145.0	650.7	428.3	335.5
1980	996.1	800.8	195.3	739.5	547.1	406.1
1990	1153.5	851.3	302.2	778.1	679.6	458.4
1991	1170.9	855.1	315.8	781.1	690.4	460.6
1992	1188.3	858.6	329.7	783.7	700.7	462.1
1993	1205.6	861.6	344.1	785.9	710.4	463.1

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricultural population	Total labor force	Agricultural labor force
		Rural	Urban			
India						
1961	452.5	370.4	82.1	319.6	195.2	144.2
1970	554.9	445.3	109.6	379.1	223.9	160.6
1980	688.9	530.0	158.9	456.0	265.3	185.0
1990	846.2	630.1	216.1	531.3	322.8	214.7
1991	862.7	640.4	222.3	538.6	329.1	217.7
1992	879.5	650.8	228.7	545.9	335.5	220.8
1993	896.6	661.3	235.3	553.3	341.9	223.9
Indonesia						
1961	98.3	83.6	14.6	69.4	38.1	28.2
1970	120.3	99.7	20.5	75.3	45.6	30.3
1980	151.0	117.4	33.5	80.3	56.3	32.2
1990	184.3	131.2	53.1	81.8	72.4	35.1
1991	187.7	132.3	55.4	81.8	74.2	35.3
1992	191.2	133.3	57.8	81.6	76.0	35.5
1993	194.6	134.3	60.3	81.4	77.8	35.7
Iran						
1961	22.1	14.4	7.7	11.5	6.6	3.5
1970	28.4	16.5	11.9	12.2	8.2	3.6
1980	39.3	19.8	19.5	13.9	11.1	4.0
1990	58.3	25.1	33.1	15.6	15.8	4.4
1991	59.9	25.4	34.5	15.6	16.2	4.4
1992	61.6	25.7	35.9	15.6	16.6	4.3
1993	63.2	25.9	37.3	15.6	17.0	4.3
Iraq						
1961	7.1	3.9	3.2	3.7	1.9	1.0
1970	9.4	4.1	5.3	4.4	2.4	1.1
1980	13.0	4.5	8.5	4.0	3.5	1.1
1990	18.1	5.1	13.0	3.7	5.1	1.0
1991	18.7	5.2	13.5	3.7	5.3	1.0
1992	19.3	5.2	14.1	3.7	5.5	1.0
1993	19.9	5.3	14.6	3.7	5.7	1.0
Japan						
1961	94.9	34.8	60.2	29.1	45.5	14.5
1970	104.3	30.0	74.3	19.7	53.3	10.5
1980	116.8	27.8	89.0	12.4	57.1	6.4
1990	123.5	28.2	95.3	7.6	62.4	4.0
1991	123.9	28.1	95.8	7.2	62.9	3.8
1992	124.3	27.9	96.4	6.9	63.3	3.7
1993	124.7	27.8	96.9	6.5	63.7	3.5
Korea DPR						
1961	11.1	6.6	4.5	6.8	5.0	3.0
1970	14.6	6.8	7.8	7.7	5.8	3.1
1980	18.3	7.9	10.4	7.8	7.9	3.4
1990	21.8	8.7	13.0	7.3	11.3	3.8
1991	22.2	8.9	13.3	7.2	11.6	3.8
1992	22.6	9.0	13.7	7.2	11.9	3.8
1993	23.1	9.1	14.0	7.1	12.2	3.8

Table 39. Continued

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricultural population	Total labor force	Agricultural labor force
		Rural	Urban			
Korea Rep						
1961	25.7	18.5	7.3	14.7	8.6	5.2
1970	31.9	18.9	13.0	14.7	11.4	5.6
1980	38.1	16.4	21.7	12.8	14.7	5.4
1990	43.4	12.1	31.3	9.7	19.1	4.7
1991	43.8	11.7	32.1	9.4	19.5	4.6
1992	44.2	11.2	32.9	9.1	19.9	4.5
1993	44.5	10.8	33.7	8.7	20.2	4.4
Lao PDR						
1961	2.2	2.1	0.2	1.8	1.2	1.0
1970	2.7	2.5	0.3	2.1	1.4	1.1
1980	3.2	2.8	0.4	2.4	1.6	1.2
1990	4.2	3.4	0.8	3.0	2.0	1.4
1991	4.3	3.5	0.8	3.1	2.0	1.4
1992	4.5	3.6	0.9	3.2	2.0	1.4
1993	4.6	3.7	0.9	3.2	2.1	1.5
Malaysia						
1961	8.4	6.3	2.1	5.1	2.9	1.8
1970	10.9	7.9	2.9	5.6	3.7	2.0
1980	13.8	9.0	4.8	5.4	5.3	2.2
1990	17.9	10.2	7.7	5.4	7.0	2.3
1991	18.3	10.3	8.1	5.4	7.2	2.3
1992	18.8	10.4	8.4	5.4	7.4	2.2
1993	19.2	10.5	8.8	5.3	7.6	2.2
Myanmar						
1961	22.2	17.9	4.3	15.0	10.2	6.9
1970	27.1	20.9	6.2	16.0	12.1	7.2
1980	33.8	25.7	8.1	17.9	15.2	8.0
1990	41.8	31.5	10.4	19.6	18.0	8.4
1991	42.7	32.1	10.7	19.8	18.3	8.5
1992	43.7	32.6	11.0	20.0	18.6	8.5
1993	44.6	33.2	11.4	20.1	19.0	8.6
Nepal						
1961	9.6	9.3	0.3	9.0	4.7	4.4
1970	11.5	11.0	0.5	10.8	5.1	4.8
1980	14.9	13.9	1.0	13.8	6.4	6.0
1990	19.6	17.4	2.1	17.9	7.9	7.3
1991	20.1	17.8	2.3	18.4	8.1	7.4
1992	20.6	18.1	2.5	18.8	8.3	7.6
1993	21.1	18.4	2.6	19.2	8.5	7.7
Pakistan						
1961	51.3	39.8	11.5	32.6	16.0	9.7
1970	65.7	49.4	16.4	40.7	19.3	11.4
1980	85.3	61.4	23.9	49.3	25.4	13.9
1990	118.1	80.3	37.8	62.6	35.3	17.5
1991	121.5	82.0	39.5	63.7	36.3	17.8
1992	124.8	83.6	41.2	64.8	37.2	18.1
1993	128.1	85.1	43.0	65.9	38.2	18.4

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricul- tural population	Total labor force	Agricul- tural labor force
		Rural	Urban			
Philippines						
1961	28.4	19.7	8.7	17.1	11.2	6.8
1970	37.5	25.2	12.4	20.5	13.7	7.5
1980	48.7	30.5	18.2	25.1	17.8	9.3
1990	62.4	35.8	26.7	29.0	22.8	10.7
1991	63.8	36.2	27.6	29.4	23.4	10.8
1992	65.2	36.6	28.6	29.6	23.9	11.0
1993	66.5	36.9	29.6	29.9	24.4	11.1
Sri Lanka						
1961	10.1	8.3	1.8	5.7	3.6	2.1
1970	12.5	9.8	2.7	6.9	4.3	2.4
1980	14.8	11.6	3.2	7.9	5.5	2.9
1990	17.2	13.5	3.7	8.9	6.4	3.3
1991	17.4	13.7	3.8	9.0	6.5	3.3
1992	17.7	13.8	3.8	9.1	6.5	3.4
1993	17.9	14.0	3.9	9.2	6.6	3.4
Thailand						
1961	27.2	23.8	3.4	22.0	13.7	11.4
1970	35.7	31.0	4.7	27.5	17.2	13.7
1980	46.7	38.7	8.0	31.5	23.6	16.7
1990	54.7	42.5	12.1	33.1	29.2	18.8
1991	55.4	42.8	12.6	33.1	29.7	18.9
1992	56.1	43.0	13.2	33.1	30.1	19.0
1993	56.9	43.2	13.7	33.2	30.6	19.1
Turkey						
1961	28.2	19.7	8.6	21.1	14.1	11.0
1970	35.3	21.8	13.6	23.7	16.1	11.4
1980	44.4	25.0	19.5	24.4	18.7	11.0
1990	56.0	21.9	34.1	24.7	23.9	11.5
1991	57.2	21.3	35.8	24.7	24.4	11.6
1992	58.4	20.7	37.6	24.7	25.0	11.6
1993	59.6	20.2	39.4	24.7	25.6	11.7
Vietnam						
1961	35.4	30.1	5.3	28.6	18.6	15.0
1970	42.7	34.9	7.8	32.7	20.3	15.5
1980	53.7	43.4	10.3	36.2	24.5	16.5
1990	66.7	53.4	13.3	40.4	32.2	19.5
1991	68.1	54.5	13.6	40.8	33.1	19.8
1992	69.5	55.5	14.0	41.1	34.0	20.1
1993	70.9	56.5	14.4	41.4	34.9	20.4

Table 39. Continued

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricultural population	Total labor force	Agricultural labor force
		Rural	Urban			
SOUTH AMERICA						
1961	151.4	71.8	79.6	67.4	49.9	21.7
1970	191.1	76.5	114.7	74.1	62.4	23.8
1980	240.5	76.5	163.9	70.1	83.3	23.9
1990	294.1	73.0	221.1	69.0	104.4	24.1
1991	299.3	72.4	226.9	68.7	106.6	24.1
1992	304.5	71.9	232.6	68.4	108.9	24.1
1993	309.6	71.4	238.3	68.1	111.3	24.1
Argentina						
1961	21.0	5.4	15.5	4.2	8.2	1.7
1970	24.0	5.2	18.8	3.8	9.3	1.5
1980	28.2	4.8	23.4	3.7	10.3	1.3
1990	32.3	4.5	27.8	3.4	11.5	1.2
1991	32.7	4.5	28.3	3.3	11.7	1.2
1992	33.1	4.4	28.7	3.3	11.9	1.2
1993	33.5	4.4	29.1	3.2	12.1	1.2
Brazil						
1961	74.8	40.4	34.4	38.3	24.0	12.3
1970	95.8	42.3	53.5	43.0	31.5	14.2
1980	121.3	41.0	80.3	37.8	44.2	13.8
1990	149.0	36.9	112.1	36.2	55.0	13.4
1991	151.6	36.4	115.2	35.9	56.1	13.3
1992	154.2	35.9	118.3	35.7	57.3	13.2
1993	156.6	35.3	121.3	35.4	58.5	13.2
Colombia						
1961	16.4	8.3	8.1	8.1	5.0	2.4
1970	21.4	9.1	12.2	8.4	6.3	2.4
1980	26.5	9.6	17.0	9.1	8.0	2.7
1990	32.3	9.7	22.6	8.9	10.5	2.9
1991	32.9	9.7	23.2	8.9	10.8	2.9
1992	33.4	9.7	23.8	8.8	11.1	2.9
1993	34.0	9.6	24.4	8.7	11.3	2.9
Ecuador						
1961	4.6	3.0	1.6	2.6	1.5	0.9
1970	6.1	3.7	2.4	3.1	1.9	0.9
1980	8.1	4.3	3.8	3.2	2.4	0.9
1990	10.5	4.6	5.9	3.2	3.3	1.0
1991	10.8	4.6	6.2	3.2	3.4	1.0
1992	11.1	4.6	6.4	3.2	3.5	1.0
1993	11.3	4.6	6.7	3.2	3.6	1.0
Guyana						
1961	0.6	0.4	0.2	0.2	0.2	0.1
1970	0.7	0.5	0.2	0.2	0.2	0.1
1980	0.8	0.5	0.2	0.2	0.2	0.1
1990	0.8	0.5	0.3	0.2	0.3	0.1
1991	0.8	0.5	0.3	0.2	0.3	0.1
1992	0.8	0.5	0.3	0.2	0.3	0.1
1993	0.8	0.5	0.3	0.2	0.3	0.1

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricul- tural population	Total labor force	Agricul- tural labor force
		Rural	Urban			
Peru						
1961	10.2	5.4	4.8	5.5	3.2	1.7
1970	13.2	5.6	7.6	6.5	3.9	1.8
1980	17.3	6.1	11.2	7.3	5.4	2.2
1990	21.6	6.5	15.0	7.9	7.0	2.4
1991	22.0	6.5	15.5	8.0	7.2	2.5
1992	22.5	6.6	15.9	8.0	7.4	2.5
1993	22.9	6.6	16.3	8.0	7.6	2.5
Surinam						
1961	0.3	0.2	0.1	0.1	0.1	0.0 ^a
1970	0.4	0.2	0.2	0.1	0.1	0.0
1980	0.4	0.2	0.2	0.1	0.1	0.0
1990	0.4	0.2	0.2	0.1	0.1	0.0
1991	0.4	0.2	0.2	0.1	0.1	0.0
1992	0.4	0.2	0.2	0.1	0.2	0.0
1993	0.4	0.2	0.2	0.1	0.2	0.0
Uruguay						
1961	2.6	0.5	2.1	0.5	1.0	0.2
1970	2.8	0.5	2.3	0.5	1.1	0.2
1980	2.9	0.4	2.5	0.5	1.1	0.2
1990	3.1	0.3	2.8	0.4	1.2	0.2
1991	3.1	0.3	2.8	0.4	1.2	0.2
1992	3.1	0.3	2.8	0.4	1.2	0.2
1993	3.1	0.3	2.8	0.4	1.2	0.2
Venezuela						
1961	7.8	2.5	5.3	2.4	2.4	0.8
1970	10.6	2.9	7.7	2.6	3.1	0.8
1980	15.0	2.5	12.5	2.3	4.9	0.8
1990	19.3	1.8	17.5	2.0	6.8	0.7
1991	19.7	1.8	18.0	2.0	7.0	0.7
1992	20.2	1.7	18.4	2.0	7.2	0.7
1993	20.6	1.7	18.9	1.9	7.4	0.7
N&C AMERICA						
1961	273.4	99.0	174.4	53.6	104.2	18.0
1970	318.6	103.6	214.9	53.2	124.1	17.4
1980	370.4	114.8	255.6	55.2	160.9	19.4
1990	423.6	120.6	303.0	54.8	188.0	19.8
1991	429.9	121.2	308.7	54.7	190.8	19.9
1992	436.2	121.7	314.5	54.7	193.6	19.9
1993	441.8	122.0	319.9	54.6	196.1	19.9
Costa Rica						
1961	1.3	0.8	0.5	0.7	0.4	0.2
1970	1.7	1.0	0.7	0.7	0.5	0.2
1980	2.3	1.3	1.0	0.7	0.8	0.2
1990	3.0	1.6	1.4	0.7	1.1	0.3
1991	3.1	1.6	1.5	0.7	1.1	0.3
1992	3.2	1.7	1.5	0.7	1.1	0.3
1993	3.3	1.7	1.6	0.7	1.1	0.3

Table 39. Continued

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricul- tural population	Total labor force	Agricul- tural labor force
		Rural	Urban			
Cuba						
1961	7.1	3.2	4.0	2.6	2.4	0.9
1970	8.5	3.4	5.1	2.6	2.6	0.8
1980	9.7	3.1	6.6	2.3	3.5	0.8
1990	10.6	2.8	7.8	2.0	4.5	0.9
1991	10.7	2.8	7.9	2.0	4.6	0.9
1992	10.8	2.8	8.1	2.0	4.7	0.9
1993	10.9	2.7	8.2	2.0	4.7	0.9
Dominican Rep						
1961	3.3	2.3	1.0	2.1	0.9	0.6
1970	4.4	2.6	1.8	2.4	1.2	0.7
1980	5.7	2.8	2.9	2.6	1.7	0.8
1990	7.2	2.8	4.3	2.6	2.3	0.8
1991	7.3	2.8	4.5	2.6	2.3	0.8
1992	7.5	2.8	4.6	2.5	2.4	0.8
1993	7.6	2.8	4.8	2.5	2.5	0.8
Mexico						
1961	37.7	18.3	19.5	20.4	11.2	6.0
1970	50.3	20.6	29.7	22.2	14.3	6.3
1980	67.0	22.6	44.5	24.5	21.6	7.9
1990	84.5	23.2	61.3	25.3	29.4	8.8
1991	86.3	23.2	63.1	25.3	30.2	8.9
1992	88.2	23.2	65.0	25.3	31.0	8.9
1993	90.0	23.2	66.8	25.3	31.9	9.0
Panama						
1961	1.2	0.7	0.5	0.6	0.4	0.2
1970	1.5	0.8	0.7	0.6	0.5	0.2
1980	2.0	1.0	1.0	0.6	0.7	0.2
1990	2.4	1.1	1.3	0.6	0.9	0.2
1991	2.5	1.2	1.3	0.6	0.9	0.2
1992	2.5	1.2	1.3	0.6	0.9	0.2
1993	2.6	1.2	1.4	0.6	0.9	0.2
USA						
1961	183.7	54.5	129.2	13.2	74.4	4.8
1970	205.1	54.1	150.9	9.9	87.2	3.7
1980	227.7	59.8	167.9	8.9	109.9	3.8
1990	249.9	61.9	188.0	6.6	122.9	2.9
1991	252.7	62.1	190.6	6.4	124.1	2.8
1992	255.5	62.3	193.2	6.2	125.3	2.7
1993	257.5	62.3	195.2	6.0	126.2	2.6

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricul- tural population	Total labor force	Agricul- tural labor force
		Rural	Urban			
AFRICA						
1961	287.3	233.3	53.9	217.4	121.9	95.2
1970	363.4	280.3	83.1	260.5	149.2	111.1
1980	479.4	348.7	130.7	313.4	190.0	130.4
1990	642.6	437.1	205.5	387.7	242.7	152.9
1991	661.9	446.9	215.0	396.1	248.9	155.5
1992	681.7	456.7	224.9	404.6	255.4	158.0
1993	702.0	466.7	235.4	413.2	262.1	160.7
Côte d'Ivoire						
1961	3.9	3.1	0.8	3.3	2.0	1.7
1970	5.5	4.0	1.5	4.2	2.6	2.0
1980	8.2	5.3	2.8	5.4	3.5	2.3
1990	12.0	7.1	4.8	6.7	4.6	2.5
1991	12.4	7.3	5.1	6.8	4.7	2.6
1992	12.9	7.5	5.4	6.9	4.8	2.6
1993	13.4	7.7	5.7	7.1	5.0	2.6
Egypt						
1961	26.6	16.3	10.2	15.3	7.6	4.4
1970	33.1	19.1	14.0	17.2	9.2	4.8
1980	40.9	23.0	17.9	18.7	11.2	5.1
1990	52.4	29.4	23.0	21.2	14.5	5.9
1991	53.6	30.0	23.6	21.5	14.9	6.0
1992	54.8	30.6	24.2	21.7	15.3	6.0
1993	56.1	31.2	24.8	21.9	15.7	6.1
Guinea						
1961	3.2	2.9	0.3	2.8	1.6	1.4
1970	3.9	3.4	0.5	3.3	1.9	1.6
1980	4.5	3.6	0.9	3.6	2.1	1.7
1990	5.8	4.3	1.5	4.3	2.5	1.8
1991	5.9	4.4	1.6	4.4	2.5	1.9
1992	6.1	4.4	1.7	4.4	2.6	1.9
1993	6.3	4.5	1.8	4.5	2.7	1.9
Liberia						
1961	1.1	0.9	0.2	0.8	0.5	0.4
1970	1.4	1.0	0.4	1.1	0.6	0.4
1980	1.9	1.2	0.7	1.4	0.8	0.6
1990	2.6	1.4	1.2	1.8	1.0	0.7
1991	2.7	1.4	1.2	1.8	1.0	0.7
1992	2.8	1.4	1.3	1.9	1.0	0.7
1993	2.8	1.5	1.4	1.9	1.0	0.7
Madagascar						
1961	5.4	4.8	0.6	4.7	2.7	2.4
1970	6.7	5.8	1.0	5.7	3.3	2.7
1980	8.8	7.2	1.6	7.1	4.1	3.3
1990	12.0	9.2	2.9	9.2	5.2	4.0
1991	12.4	9.4	3.0	9.4	5.3	4.0
1992	12.8	9.6	3.2	9.7	5.4	4.1
1993	13.3	9.8	3.4	10.0	5.6	4.2

Table 39. Continued

REGION/COUNTRY/ YEAR	Total	Population by locality		Agricultural population	Total labor force	Agricultural labor force
		Rural	Urban			
Mali						
1961	4.5	4.0	0.5	4.1	1.6	1.4
1970	5.5	4.7	0.8	4.9	1.9	1.7
1980	6.9	5.6	1.3	5.9	2.3	1.9
1990	9.2	7.0	2.2	7.4	2.9	2.4
1991	9.5	7.2	2.3	7.6	3.0	2.4
1992	9.8	7.4	2.5	7.8	3.1	2.5
1993	10.1	7.5	2.6	8.0	3.2	2.5
Nigeria						
1961	43.5	37.0	6.5	31.7	18.6	13.6
1970	56.6	45.3	11.3	40.1	23.7	16.8
1980	78.4	57.2	21.2	53.4	32.0	21.8
1990	108.5	70.4	38.2	70.3	41.0	26.6
1991	112.1	71.7	40.3	72.2	42.1	27.1
1992	115.7	73.1	42.6	74.1	43.1	27.6
1993	119.3	74.4	44.9	76.0	44.3	28.2
Sierra Leone						
1961	2.3	2.0	0.3	1.8	1.0	0.8
1970	2.7	2.2	0.5	2.0	1.1	0.8
1980	3.3	2.5	0.8	2.3	1.2	0.8
1990	4.2	2.8	1.3	2.6	1.4	0.9
1991	4.3	2.9	1.4	2.6	1.5	0.9
1992	4.4	2.9	1.5	2.7	1.5	0.9
1993	4.5	2.9	1.6	2.7	1.5	0.9
Tanzania, United Rep						
1961	10.5	10.0	0.5	9.6	5.8	5.3
1970	13.7	12.8	0.9	12.3	7.3	6.6
1980	18.6	15.8	2.7	15.7	9.5	8.1
1990	26.0	20.6	5.4	20.6	12.5	10.1
1991	26.9	21.1	5.8	21.2	12.8	10.3
1992	27.8	21.7	6.1	21.8	13.2	10.5
1993	28.8	22.2	6.5	22.3	13.5	10.7
Zaire						
1961	15.7	12.1	3.6	13.3	7.5	6.3
1970	20.3	14.1	6.1	16.0	9.0	7.1
1980	27.0	19.3	7.8	19.3	10.7	7.7
1990	37.4	26.9	10.5	24.6	13.5	8.9
1991	38.6	27.7	10.9	25.2	13.8	9.0
1992	39.9	28.6	11.3	25.8	14.2	9.2
1993	41.2	29.4	11.8	26.4	14.5	9.3
EUROPE						
1961	428.8	164.4	264.4	110.6	192.9	53.2
1970	459.9	153.1	306.8	83.5	203.8	40.5
1980	484.4	143.0	341.4	61.2	217.9	29.8
1990	500.6	133.1	367.6	42.8	232.4	21.5
1991	502.5	132.0	370.5	41.2	233.5	20.8
1992	503.9	130.6	373.3	39.6	234.6	20.1
1993	504.9	129.2	375.7	38.2	235.4	19.4

REGION/COUNTRY/ YEAR	Total	Population by locality		Agric- tural population	Total labor force	Agric- tural labor force
		Rural	Urban			
Italy						
1961	50.5	20.3	30.2	13.3	20.9	6.2
1970	53.8	19.2	34.6	8.8	20.9	3.9
1980	56.4	18.8	37.6	5.9	21.6	2.6
1990	57.7	17.9	39.7	3.5	23.4	1.7
1991	57.8	17.8	40.0	3.3	23.5	1.6
1992	57.8	17.6	40.2	3.2	23.6	1.5
1993	57.9	17.4	40.4	3.0	23.7	1.4
Portugal						
1961	8.9	6.9	2.0	4.0	3.4	1.5
1970	9.0	6.7	2.3	3.0	3.5	1.1
1980	9.8	6.9	2.9	2.6	4.3	1.1
1990	9.9	6.6	3.3	1.7	4.5	0.7
1991	9.9	6.5	3.4	1.6	4.5	0.7
1992	9.8	6.4	3.4	1.5	4.5	0.7
1993	9.8	6.4	3.5	1.5	4.5	0.6
Spain						
1961	30.7	13.1	17.7	12.2	11.7	4.7
1970	33.8	11.5	22.3	8.5	12.0	3.1
1980	37.5	10.2	27.3	6.2	12.9	2.2
1990	39.0	8.4	30.5	4.0	14.4	1.6
1991	39.0	8.2	30.8	3.9	14.6	1.5
1992	39.1	8.1	31.0	3.7	14.7	1.4
1993	39.1	7.9	31.2	3.5	14.8	1.4
Former USSR						
1961	218.1	109.3	108.8	88.3	111.3	45.0
1970	242.8	105.6	137.2	62.3	118.3	30.4
1980	265.5	99.5	166.0	53.1	137.0	27.4
1990	289.3	97.7	191.6	37.7	144.2	18.8
1991	290.9	97.2	193.7	36.2	144.3	17.9
1992	292.5	96.8	195.7	34.7	144.4	17.1
1993	293.9	96.3	197.5	33.2	144.6	16.3
Oceania						
1961	16.1	5.4	10.8	3.9	6.6	1.8
1970	19.5	5.7	13.9	4.1	8.3	1.9
1980	22.8	6.5	16.3	4.4	10.2	2.0
1990	26.6	7.8	18.8	4.5	12.3	2.0
1991	27.0	7.9	19.1	4.5	12.5	2.0
1992	27.4	8.0	19.4	4.5	12.7	2.0
1993	27.8	8.1	19.6	4.5	12.8	2.0
Australia						
1961	10.5	2.0	8.5	1.2	4.3	0.5
1970	12.8	1.9	10.9	1.0	5.4	0.4
1980	14.7	2.1	12.6	1.0	6.7	0.5
1990	17.1	2.5	14.5	0.9	8.2	0.4
1991	17.3	2.6	14.7	0.8	8.3	0.4
1992	17.5	2.6	14.9	0.8	8.4	0.4
1993	17.7	2.6	15.0	0.8	8.5	0.4

^aless than 0.1 million people.

Source: FAOAGROSTAT 1994. FAO, Rome

Table 40. Farm wage rates (domestic currency/day), selected Asian countries, 1961-93.

YEAR	Bangladesh ^a (taka)	India ^b (rupee)	Indonesia ^c (rupiah)	Japan ^d (yen)		Korea Rep ^e (won)	
				Male	Female	Male	Female
1961	2.2	1.4	...	439	363	106	64
1962	2.3	1.5	...	553	456	115	70
1963	2.4	1.6	...	652	539	143	91
1964	2.7	1.6	...	749	608	199	124
1965	2.5	1.9	...	838	672	221	141
1966	3.0	2.2	11	913	743	256	165
1967	2.9	2.5	32	1101	824	307	207
1968	2.9	2.5	70	1204	1001	381	260
1969	3.0	2.6	95	1333	1120	463	316
1970	2.1	2.9	125	1509	1226	579	392
1971	3.4	2.9	...	1808	1423	695	472
1972	4.7	2.9	147	2027	1594	803	552
1973	6.7	2.9	206	2412	1901	886	620
1974	9.1	3.3	252	3210	2515	1141	798
1975	8.8	3.6	307	3640	2867	1467	1044
1976	8.9	4.1	347	3852	3050	1903	1354
1977	9.4	3.8	417	4441	3403	2350	1695
1978	10.9	4.2	503	4620	3578	3393	2508
1979	12.4	4.6	587	4789	3720	5140	3815
1980	14.0	5.2	812	5054	3915	6509	4841
1981	15.5	5.5	998	5330	4113	7388	5489
1982	17.1	6.0	1164	5543	4271	8163	6211
1983	19.6	6.9	1247	5697	4382	8656	6538
1984	24.4	9.1	1462	5850	4484	9134	6643
1985	29.5	11.0	1623	5981	4586	9695	6940
1986	31.9	11.5	1748	6112	4682	10142	7254
1987	31.2	11.6	1835	6245	4783	10568	7699
1988	42.9	11.9	1918	6374	4869	12275	8855
1989	45.7	16.0	...	6539	4995	15162	10666
1990	48.9	...	...	6711	5126	18563	13224
1991	50.9	...	...	6995	5305	24444	17187
1992	54.8	...	...	...	...	28758	19920
1993	57.4	...	...	...	...	30360	21267

Malaysia ^f (ringgit)		Myanmar ^g (kyat)	Pakistan ^h (rupee)	Philippines ⁱ (peso)	Sri Lanka ^j (rupee)		Thailand ^k (baht)	YEAR
Male	Female				Male	Female		
...	...	2.5	...	2.8	2.6	2.2	...	1961
...	...	2.5	...	2.8	2.7	2.2	...	1962
...	...	2.9	...	3.1	2.8	2.4	...	1963
...	...	3.3	1.9	2.9	2.8	2.3	...	1964
...	...	3.5	1.9	2.9	2.9	2.4	10.0	1965
2.5	1.9	3.0	2.2	3.1	2.8	2.3	...	1966
2.5	1.9	3.0	2.5	3.4	2.9	2.4	10.0	1967
2.5	1.9	3.0	2.5	3.4	3.3	2.7	...	1968
2.6	2.1	3.0	2.5	3.1	3.3	2.8	...	1969
2.6	2.0	3.0	3.0	3.4	3.4	2.7	12.0	1970
2.5	2.0	3.0	3.2	3.8	3.5	3.4	...	1971
2.5	2.0	3.0	3.3	4.4	4.2	3.0	12.6	1972
2.7	2.4	3.0	5.8	4.4	3.9	3.6	...	1973
3.6	3.3	3.0	7.9	5.6	5.0	3.8	...	1974
3.4	2.9	3.0	7.5	6.6	6.2	4.7	25.0	1975
4.3	4.3	4.0	7.7	9.0	6.8	5.2	30.0	1976
4.1	4.0	5.1	9.1	9.9	7.6	6.0	...	1977
4.5	4.0	7.1	10.0	10.4	8.8	7.6	...	1978
5.2	4.6	7.1	11.3	10.7	12.7	9.7	...	1979
...	...	7.0	13.3	11.0	15.0	12.7	...	1980
...	...	7.0	15.3	11.9	15.6	12.8	...	1981
...	...	7.0	17.3	13.4	17.6	15.3	...	1982
...	...	7.0	19.2	15.9	18.2	16.7	...	1983
...	...	7.0	21.1	22.6	22.5	17.0	35.6	1984
...	...	7.0	23.1	29.1	25.4	22.4	38.6	1985
...	...	7.0	25.0	31.4	25.6	23.2	...	1986
...	...	7.0	27.5	32.4	25.2	23.4	...	1987
...	...	7.0	...	36.3	35.7	34.6	42.4	1988
...	...	18.0	...	42.0	41.5	39.5	...	1989
...	...	20.0	...	51.5	51.2	47.2	60.0	1990
...	...	20.0	...	59.4	51.1	51.0	...	1991
...	...	50.0	...	65.2	...	...	63.7	1992
...	...	50.0	...	...	...	...	...	1993

Continued

Table 40. Continued

- ^a Average wage rate for agricultural labor.
Sources: 1961-64: Clay, E. 1976. Institutional change and agricultural wages in Bangladesh. Staff paper 76-5. Agricultural Development Council, New York.
1965-69: Bangladesh Bureau of Statistical. Monthly Statistical Bulletin of Bangladesh. Dacca (various issues).
1970-87: Bangladesh Bureau of Statistics. Statistical yearbook of Bangladesh, Dhaka (various issues).
1988-93: Bangladesh Bureau of Statistics. Monthly indicators of current economics situation of Bangladesh (various issues).
- ^b 1961-82: Weighted average wage rates of unskilled agricultural labor in major states of India.
1983-91: National average wage rates of unskilled wage earners.
- ^c 1966-79: average wage rate for all types of agricultural labor.
1980-88: Daily average wage of estate workers.
Sources: 1966-79: Indonesia, Biro Pusat Statistik. Statistik Upah Karyawan Perkebunan, Jakarta (various issues).
1980-88: Indonesian Biro Pusat Statistik. Statistical yearbook of Indonesia, Jakarta (various issues).
- ^d Average wage rate for casual farm workers.
Source: ILO. International Labor Statistics. Geneva (various issues).
- ^e Average wage rate of agricultural workers.
Source: ILO. International Labor Statistics. Geneva (various issues).
Agriculture crop yearbook, 1994.
- ^f Average wage rate for tappers, rubber estate.
Sources: ILO. International Labor Statistics. Geneva (various issues).
- ^g Average wage rate of male agricultural workers.
Sources: Myanmar Agriculture Service. Central Statistical Organization.
Statistical abstract (various issues).
- ^h Average wage rate of general farm labor, including the value of payment in kind.
1981 and 1983-85 values are interpolated by linear trend.
Source: ILO. International Labor Statistics. Geneva (various issues).
Punjab Economic Research Institute. Study of farm accounts, family budgets and costs of production of major crops (various issues).
- ⁱ Nominal wage rates in agriculture without meals, male and female.
Source: Bureau of Agricultural Statistics. Quezon City (various issues).
- ^j Average wage rate of agricultural workers in tea plantations.
Source: ILO. International Labor Statistics. Geneva (various issues).
- ^k Farm wage rate in Central Plains.
Sources: 1965: Usher, D. 1966. Income as a measure of productivity: comparisons of agriculture and nonagricultural productivity in Thailand. *Economica* (November 1976).
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1975: Komate, S. 1976. Labor problems of double cropping at the Chanasate Land Consolidation Project. MA thesis, Thammasat University, Thailand.
1976: Ministry of Agriculture and Cooperatives, Chao Phya Irrigated.
1981: Pampiemras, K., and S. Krusansombat. 1985. Seasonal migration and employment in Thailand. In Food policy analysis in Thailand. Edited by Theodore Panayotan. Agricultural Development Council, Bangkok.
1984, 1986, 1988, 1990, and 1992: NESDB.
- ^l ... = data not available.

Modern rice varieties

Table 41. Area (000 ha) planted (or harvested) to modern varieties, selected Asian countries, 1965-93.

YEAR	Bangla- desh ^a	China PR ^b	India ^{a,d}	Indone- sia ^a	Korea Rep ^c	Malay- sia ^{c,e}	Myan- mar ^c	Nepal ^a	Pakis- tan ^a	Philip- pines ^a	Sri Lanka ^c	Thai- land ^c
1965	- ^f	-	-	-	-	42	-	7	-	-	-	-
1966	-	-	888	-	-	63	-	13	-	83	385	-
1967	63	-	1785	-	-	91	3	27	-	702	433	-
1968	152	-	2681	-	-	96	167	43	308	1352	452	3
1969	264	-	4342	491	-	132	134	50	501	1390	536	3
1970	460	-	5588	811	-	164	183	67	550	1503	478	30
1971	624	-	7412	1146	-	197	178	82	728	1789	507	100
1972	1065	-	8168	1885	197	212	192	172	647	1887	526	300
1973	1548	-	9981	2345	123	217	238	205	669	2042	667	400
1974	1444	-	11208	3307	184	213	316	223	631	2207	520	450
1975	1552	-	12443	3561	274	222	433	216	665	2265	559	600
1976	1280	135	13337	3661	541	318	463	221	678	2467	692	960
1977	1204	2130	16122	4014	664	316	522	291	852	2588	708	960
1978	1373	4260	16882	4658	1045	... ^f	823	312	1015	2577	667	1100
1979	1998	4970	15991	5048	750	...	1342	315	964	2666	704	800
1980	2194	4790	18234	5531	604	...	2127	325	841	2696	747	1100
1981	2325	5110	19687	5694	321	...	2461	436	873	2715	789	1200
1982	2629	5620	18842	5814	386	...	2548	459	916	2826	...	...
1983	2630	6750	21736	6148	419	...	2566	479	940	2585	...	...
1984	2776	8850	22778	7092	367	...	2568	...	974	2753	...	...
1985	2872	8610	23473	7867	343	...	2362	...	902	2887	...	...
1986	3131	9560	24026	7633	272	...	2389	...	1056	3022	...	...
1987	3334	10970	22250	7562	247	...	2393	...	953	2808	...	...
1988	3903	13330	25407	7009	225	...	2474	...	864	2954	...	...
1989	4269	13330	26162	7693	182	...	2457	...	843	3093	...	...
1990	4596	16650	28057	8086	138	...	2440	...	830	2958	...	...
1991	4800	17640	28000	...	49	...	2451	...	879	3109	...	...
1992	5054	17580	28300	...	0.8	...	3084	...	803	2992	...	...
1993	4997	17020	31000	...	-	...	3366	...	...	...	...	...

- ^a Harvested area.
^b Planted to hybrid varieties.
^c Planted area.
^d Figure for 1992 is anticipated achievement, 1993 data is target area.
^e Relates to West Malaysia only.
^f - = magnitude zero; ... = data not available.

Sources:

Bangladesh:	Bangladesh Bureau of Statistics. The yearbook of agricultural statistics, Ministry of Planning, Dhaka (various issues). Bangladesh Bureau of Statistics. Statistical yearbook of Bangladesh. Ministry of Planning, Dhaka. Bangladesh Rice Research Institute. Department of Agricultural Extension and Agricultural Economics Division.
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Nepal:	Dalrymple, D. 1985. Development and spread of high yielding varieties in developing countries, USAID, Washington, D.C.
Pakistan:	Pakistan Federal Bureau of Statistics, Pakistan Statistical Yearbook, Karachi (various issues). Ministry of Food, Agriculture and Cooperative. Agricultural statistics of Pakistan (various issues). Islamabad.
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Thailand:	Dalrymple, D. 1986. Development and spread of high yielding varieties in developing countries, USAID, Washington, D.C.

Table 42. Area (000 ha) planted to modern rice varieties India, by state, 1966-90.

YEAR	INDIA	Andhra Pradesh	Assam	Bihar	Gujarat	Haryana	Jammu & Kashmir	Karnataka	Kerala
1966	888	275	2	67	- ^a	-	8	29	70
1967	1785	351	21	256	54	4	51	45	21
1968	2681	205	61	269	27	11	119	75	220
1969	4342	522	101	324	28	20	121	121	136
1970	5588	542	134	340	49	30	109	156	159
1971	7412	725	200	440	60	70	109	160	168
1972	8168	1200	274	452	86	92	140	202	190
1973	9981	1811	280	600	88	125	160	280	275
1974	11208	2413	321	645	94	144	165	334	167
1975	12443	2477	328	768	172	169	180	575	260
1976	13337	2024	431	998	178	190	193	400	260
1977	16122	2413	554	1300	126	252	200	500	294
1978	16882	2671	576	1365	219	330	205	642	279
1979	15991	2244	376	1060	256	416	210	751	300
1980	18234	2760	575	1400	305	414	216	725	396
1981	19687	3086	880	1500	329	441	230	849	431
1982	18842	3075	945	1460	318	430	235	790	465
1983	21736	3466	990	2000	376	435	243	877	200
1984	22778	3046	1033	2300	380	470	247	870	250
1985	23473	2812	1016	2778	292	495	249	756	350
1986	24026	3250	1030	2748	350	480	257	877	417
1987	22250	2519	962	3000	249	387	237	753	353
1988	25407	3676	1060	1600	494	395	257	981	160
1989	26162	3793	1253	1628	503	435	263	903	156
1990 ^b	28057	3651	1300	1643	450	504	266	904	230

Madhya Pradesh	Maharashtra	Orissa	Punjab	Tamil Nadu	Uttar Pradesh	West Bengal	Others	YEAR
53	76	46	7	152	69	26	8	1966
32	68	121	17	442	150	131	21	1967
132	129	146	27	639	331	226	64	1968
209	185	173	72	1142	561	460	167	1969
276	216	182	130	1819	677	527	242	1970
400	232	253	311	2245	994	704	341	1971
407	217	400	378	2245	925	690	270	1972
801	393	360	412	2144	978	786	488	1973
900	363	313	481	1860	1425	871	712	1974
1150	539	483	517	1860	1593	1053	319	1975
1194	839	557	579	2170	1679	1290	355	1976
1329	918	647	768	2437	2700	1393	291	1977
1292	854	867	1001	2364	2364	1551	302	1978
923	877	991	1076	2359	2186	1650	316	1979
1550	941	1214	1095	1933	2547	1826	337	1980
1381	960	1222	1207	2300	2665	1807	399	1981
1487	922	1702	1252	1200	2442	1729	390	1982
1500	1032	1427	1414	2282	2990	2010	494	1983
1751	1012	1529	1584	2368	3512	1921	505	1984
2046	1064	1647	1630	2154	3663	2001	520	1985
1864	980	1764	1709	1860	3701	2244	495	1986
1784	1100	1697	1527	1910	2612	2685	475	1987
2400	1156	2017	1676	1796	4377	2790	572	1988
2397	1145	2255	1809	1863	4200	2970	589	1989
2750	1215	2600	1824	1780	4861	3443	636	1990

^a - = magnitude zero.

^b Anticipated achievement.

Source: India Directorate of Economics and Statistics, Ministry of Agriculture.
In Fertilizer statistics. Fertilizer Association of India, New Delhi
(various issues).

Table 43. Area (000 ha) planted to hybrid rice, People's Republic of China, by province, 1976-87.

YEAR	CHINA PR	Bei- jing	Tian- jin	Hebei	Liao- ning	Shang- hai	Jiang- su	Zhe- jiang	Anhui	Fujian
1976	135	- ^a	-	-	-	-	+ ^a	+	+	3
1977	2302	-	-	-	-	2	57	2	21	349
1978	4220	-	-	-	-	6	418	163	42	533
1979	4950	-	-	-	-	9	761	474	121	595
1980	4735	-	-	-	-	7	645	558	108	525
1981	5117	8	-	-	34	3	657	514	141	475
1982	5611	4	-	-	41	2	667	460	181	413
1983	6750	-	-	-	-	1	762	511	252	448
1984	8844	9	1	-	84	2	914	544	454	518
1985	8415	3	-	-	92	4	787	567	520	509
1986	9148	4	-	-	127	2	770	573	615	581
1987	11302	5	-	10	100	-	819	598	602	703

^a - = magnitude zero; + = less than 1000 ha.

Source: China Ministry of Agriculture, Animal Husbandry and Fisheries,
Adoption of Hybrid Rice in China by Province (unpublished data).

Jiang- xi	Shang- dong	Henan	Hubei	Hunan	Guang- dong	Guang- xi	Sichuan	Guizhou	Yun- nan	Sha- anxi	Ning- xia	YEAR
5	-	-	-	87	10	29	-	1	-	-	-	1976
111	-	-	114	1225	142	237	25	17	-	-	-	1977
658	-	-	305	1188	203	440	195	67	2	-	-	1978
800	-	-	189	1060	115	263	480	83	-	-	-	1979
764	-	-	80	980	147	130	680	95	16	-	-	1980
697	7	1	71	1052	335	157	848	59	12	46	-	1981
620	7	2	89	1133	667	174	1040	47	14	49	-	1982
616	-	-	154	1183	1141	215	1375	69	24	-	-	1983
644	3	20	396	1526	1467	227	1801	101	56	73	4	1984
713	-	10	567	1357	869	310	1850	113	53	87	5	1985
727	-	-	664	1652	718	510	1906	114	109	77	-	1986
1021	-	20	864	1978	986	900	2101	439	151	-	5	1987

Table 44. Popular traditional and modern rice varieties planted, selected countries.

Bangladesh, 1992-93.

Variety name	Year of release	Varietal type ^a	Group ^b	Varietal niche ^c	Female parent	Male parent	Line no.	Origin ^d	Total rice area (000 ha)
<i>Traditional</i>									
Latisail DA 17	1934	I	T	2	...	...	Selection	1	92
Katektara	1921	I	T	3	...	...	Selection	1	105
Dharial	1932	I	T	3	...	...	Selection	1	126
Hashikalmi	1944	I	T	3	...	...	Selection	1	135
Nizarsail DA-25	1945	I	T	2	...	...	Selection	1	166
<i>Modern</i>									
Purbachi	1968	J	I	1	...	...	Introduction	1	259
BR1	1970	I	I	1	IR262-24-3	TKM6	IR532-1-176	4	271
BR3	1973	I	I	1	IR506-133-1	Latisail	BR27-10-1	2	403
BR14	1983	I	I	1	IR5	BR23	BR319-1-HR28	2	451
BR11	1980	I	I	2	IR20	IR5-47-2	BR52-87-1-HR88	3	1983

^a I = indica; J = japonica.^b I = improved; T = traditional.^c 1 = irrigated; 2 = rainfed; 3 = upland.^d 1 = non-IRRI material/parent; 2 = one IRRI parent; 3 = two IRRI parents; 4 = direct use of IRRI variety or line.^e ... = data not available.

Source: Bangladesh Rice Research Institute, Department of Agricultural Economics.

China PR, 1991-92.

Variety name	Year of release	Varietal type ^a	Group ^b	Varietal niche ^c	Female parent	Male parent	Line no.	Origin ^d	Total rice area (000 ha)
<i>Improved</i>									
Deng Line 138	1980s	J	I	I	Selection	Selection	...	1	141
E Wan No.5	1980s	J	I	I	E Wan No.3	4243	...	2	153
He Jiang 19	1980s	J	I	I	He Jiang 12		...	1	185
Xiu Shui No.11	1980s	J	I	I	Ce 21	Ce 21/Xiang Hu 25	...	1	188
Wu Yu Keng	1990s	J	I	I	Zhong Dan No.1/7451	Zhong Dan No.1/ Yang Keng No. 5	...	1	291
<i>Hybrid rice</i>									
Bo you 64	1980s	I	I	I	BoA	64-7	...	2	588
Wei You 64	1980s	I	I	I	V20A	64-7	...	2	820
D You 63	1980s	I	I	I	DA	IR30/Gui 630	...	2	852
Shan You 64	1980s	I	I	I	Zhen shan 97A	64-7***	...	2	1255
Shan You 63	1980s	I	I	I	Zhen shan 97A	IR30/Gui 630	...	2	5706

Source: China Ministry of Agriculture.

Variety name	Year of release	Varietal type ^a	Group ^b	Varietal niche ^c	Female parent	Male parent	Line no.	Origin ^d	Rice area 1st crop (000 ha)
<i>Modern</i>									
Ciliwung	1988	I	I	1	IR36/Pelita 1-1	IR3351/IR36	Seratus malam-Batan	1	131
IR36	1978	I	I	1	IR1516/IR24/O. Nivara	CR94-13	IR2071-625-1-252	4	192
Cisokan	1985	I	I	1	IR36	Pelita 1-1	B4070d-Pn-199-43	2	255
Cisadane	1980	I	I	1	Pelita 1-1	B2388	B2484b-Pn-28-3-Mr-1	1	337
IR64	1986	I	I	1	IR5657	IR2061	IR4570-83-3-3-2	4	1226

^a I = indica; J = japonica.

^b I = improved; T = traditional.

^c 1 = irrigated; 2 = rainfed; 3 = upland.

^d 1 = non-IRRI material/parent; 2 = one IRRI parent; 3 = two IRRI parents; 4 = direct use of IRRI variety or line.

^e ... = data not available.

Source: Bogor Research Institute for Food crops.

Madagascar, 1992-93.

Variety name	Year of release	Varietal type ^a	Group ^b	Varietal niche ^c	Female parent	Male parent	Line No.	Origin ^d	Total rice area (000 ha)
<i>Traditional</i>									
Ali combo	1970	JV	T	1	... ^e	...	...	1	<1
Boina	1970	I	T	1	...	...	...	1	5
Kalila	1986	I	T	1	...	...	...	1	5
Nakaliloka	1932	I	T	1	...	...	...	1	40
Rojofotsy	1960	I	T	2	...	...	...	1	50
<i>Modern</i>									
IRAT 134	1986	J	I	3	...	...	...	1	7
IR8	1970	I	I	1	Peta	DGWG	...	4	15
B54-bkn-112	1986	I	I	1	...	...	112-2-2	1	20
IAC 25	1976	JV	I	3	...	...	...	1	20
Tohe-Kouai	1986	I	I	1	...	...	...	1	30

Source: National Center for Research Rice Research Department, Mahitsy, Madagascar.

Table 44. Continued

Pakistan, 1992-93.

Variety name	Year of release	Varietal type ^a	Group ^b	Varietal niche ^c	Female parent	Male parent	Line no.	Origin ^d	Total rice area (000 ha)
<i>Traditional</i>									
JP-5	1965	J	T	I	Local Selection	Local Selection	... ^e	1	87
Basmati 370	1933	I	T	I	Local Selection	Local Selection	...	1	100
<i>Modern</i>									
Basmati 198	1972	I	I	I	Basmati 370-3	TN1	...	1	100
Basmati Pak	1968	I	I	I	CM 7-6	Basmati 370	...	1	100
Ks282	1983	I	I	I	Basmati 370	IR95	...	2	199
IR6	1971	I	I	I	Siam 29	DGWG	...	1	640
Basmati 385	1988	I	I	I	Basmati 370-4	TN1	...	1	860

Source: National Agricultural Research Centre, Islamabad.

^a I = indica; J = japonica.^b I = improved; T = traditional.^c 1 = irrigated; 2 = rainfed; 3 = upland.^d 1 = non-IRRI material/parent; 2 = one IRRI parent;

3 = two IRRI parents; 4 = direct use of IRRI variety or line.

^e ... = data not available.

Thailand, 1992-93.

Variety Name	Year of Release	Varietal Type ^a	Group ^b	Varietal niche ^c	Female Parent (000)	Male Parent	Line No.	Origin ^d	Total rice area (ha)
<i>Traditional</i>									
Khao Dawk Mali 105	1959	I	T	2	Khao Dawk Mali 105	4-2-105	... ^e	1	1687
<i>Modern</i>									
RD21	1981	I	I	1	Khao Dawk Mali 105/ Nahng Mon S-4	IR26	SPR7419-86-2-5	2	92
Suphan Buri 60	1987	I	I	1	Leuang Tawng/C4-63	IR48	SPRLR81074-61-1-1	2	119
RD15	1978	I	I	2	Irrad Khao Dawk Mali 105	...	KDML105'65-G1U-45	1	328
RD23	1981	I	I	1	RD7/IR32	RD1	SPRLR76002-168-1-1	2	491
RD6	1977	I	I	2	Irrad Khao Dawk Mali 105	...	KDML 105'65G2U-68-254	1	2227

Source: Thailand Rice Research Institute, Ministry of Agriculture.

Fertilizer and pesticide use and prices

Table 45. Total consumption (000 t) of fertilizer (N, P, K) from chemical sources, by country and geographical region, 1961-92.

YEAR	WORLD	ASIA	Afghanistan	Bangladesh	Cambodia	China	India	Indonesia	Iran	Iraq	Japan
1961	31182	3809	1	23	5	728	338	136	14	2	1584
1962	33981	4336	1	27	1	990	452	149	18	2	1655
1963	37688	4984	1	49	1	1247	544	130	24	2	1797
1964	41884	5589	1	45	2	1677	773	96	31	3	1764
1965	47003	6695	1	54	2	2604	785	95	37	4	1852
1966	52329	8554	2	76	2	3719	1101	145	49	7	1978
1967	56277	8530	10	96	4	2697	1539	127	75	9	2105
1968	59810	9224	15	108	4	2696	1761	271	78	11	2150
1969	63482	10555	17	130	6	3474	1982	178	87	15	2110
1970	69307	11823	19	143	3	4407	2257	240	95	17	1955
1971	73310	12672	21	114	3	4566	2657	227	177	20	1915
1972	78695	14237	29	182	2	5247	2768	451	200	23	2062
1973	85475	16150	25	182	2	6444	2839	484	328	29	2245
1974	81945	14792	34	129	1	5576	2573	499	332	34	2051
1975	91399	17328	36	215	- ^a	6852	3494	489	336	33	1801
1976	95435	17559	44	243	-	6420	3417	493	341	43	2086
1977	100607	22053	54	341	-	9133	4296	615	408	54	2124
1978	108754	25655	54	356	-	10861	5131	763	312	59	2221
1979	112472	28299	50	407	-	13082	5273	856	473	102	2344
1980	116720	30948	51	417	8	15335	5533	1173	613	92	1816
1981	115147	31657	46	400	19	15153	6085	1454	685	77	1879
1982	115041	33723	53	468	11	16036	6405	1531	892	75	1985
1983	126292	38418	57	558	5	18218	7731	1516	1038	90	2098
1984	130565	40805	73	591	2	19775	8235	1874	926	117	2105
1985	128613	38579	73	541	-	16852	8504	1972	903	177	2034
1986	132254	40225	67	635	-	17323	8680	2079	910	191	2053
1987	139589	46280	78	706	1	22688	8822	2266	941	216	2037
1988	145637	51892	56	772	-	25322	11077	2392	1076	209	1943
1989	143420	53145	56	907	4	25428	11607	2346	1181	215	1938
1990	138048	56196	45	933	8	27027	12584	2387	1161	209	1839
1991	134327	58826	51	1003	6	29749	12763	2408	1156	135	1763
1992	125931	59158	43	1000	7	29155	12218	2580	1371	210	1784

Korea DPR	Korea Rep	Lao PDR	Malaysia	Myanmar	Nepal	Pakistan	Philippines	Sri Lanka	Thailand	Turkey	Vietnam	Others	YEAR
112	316	-	75	6	-	42	71	84	18	75	89	91	1961
139	315	-	78	7	-	41	88	95	22	74	95	87	1962
158	346	-	79	7	1	68	93	91	34	109	105	98	1963
164	361	-	83	9	1	85	88	85	31	96	92	102	1964
173	336	-	98	9	1	70	113	96	34	149	78	104	1965
186	423	1	115	12	3	112	107	104	67	190	46	110	1966
208	486	-	117	30	3	190	118	102	101	279	116	116	1967
250	478	2	122	18	3	245	149	130	99	380	113	141	1968
251	535	1	152	41	5	308	203	89	105	446	276	146	1969
309	563	-	193	22	5	283	201	105	81	431	311	181	1970
338	598	-	171	44	8	382	209	112	128	495	288	198	1971
361	648	-	214	48	11	436	193	100	160	633	258	210	1972
371	757	-	267	41	12	403	259	111	150	723	248	230	1973
416	848	-	226	45	13	426	285	102	201	523	284	193	1974
434	866	-	248	55	12	554	227	72	180	891	330	203	1975
551	643	-	299	51	15	631	269	95	237	1179	271	231	1976
611	736	-	320	62	17	717	261	112	272	1259	420	241	1977
767	871	-	369	86	19	880	312	136	288	1549	341	282	1978
749	851	-	434	93	21	987	342	146	289	1299	163	337	1979
729	803	4	453	100	22	1080	334	165	275	1456	155	333	1980
786	769	4	400	126	24	1080	320	147	313	1297	219	376	1981
740	614	-	443	168	31	1244	340	156	367	1460	262	443	1982
791	718	1	566	160	37	1204	359	168	471	1664	376	594	1983
774	778	-	556	188	43	1253	262	191	438	1541	375	709	1984
844	807	2	611	194	43	1511	283	195	434	1427	386	786	1985
756	830	-	706	179	45	1785	390	192	511	1519	524	851	1986
746	840	1	699	125	54	1720	486	207	587	1778	421	862	1987
812	879	-	735	107	57	1740	503	209	778	1614	589	1022	1988
815	921	-	829	83	67	1890	537	211	802	1798	542	968	1989
832	916	2	952	71	73	1893	588	171	1044	1888	544	1031	1990
811	950	3	966	78	79	1879	437	177	846	1767	743	1056	1991
828	964	3	965	69	92	2144	496	184	1095	1928	902	1122	1992

Table 45. Continued

YEAR	SOUTH AMERICA	Argentina	Brazil	Colombia	Ecuador	Guyana	Peru	Surinam	Uruguay
1961	558	16	270	71	11	9	91	1	23
1962	622	13	256	104	15	9	113	1	26
1963	726	21	298	139	19	10	98	1	31
1964	701	30	248	161	11	8	83	1	41
1965	720	41	279	131	15	9	84	1	34
1966	746	53	276	131	17	8	64	1	46
1967	987	68	448	144	50	10	78	2	41
1968	1184	68	602	148	63	9	68	2	68
1969	1205	80	630	141	41	11	82	2	60
1970	1633	87	1002	144	34	10	84	2	69
1971	1792	77	1123	184	18	12	82	4	88
1972	2400	86	1624	206	42	15	122	4	78
1973	2530	83	1673	256	52	16	98	5	77
1974	2717	75	1825	250	41	16	142	5	68
1975	2689	60	1978	215	33	13	104	3	47
1976	3434	78	2528	246	81	10	129	4	74
1977	4158	74	3209	292	86	8	139	4	63
1978	4235	107	3222	291	71	13	137	4	58
1979	4683	130	3567	312	79	11	117	2	92
1980	5291	116	4201	312	73	6	118	2	81
1981	3692	96	2753	280	70	14	132	6	64
1982	3669	113	2729	325	72	10	93	8	49
1983	3260	131	2287	318	74	10	79	9	42
1984	4567	148	3363	363	73	15	78	12	53
1985	4654	162	3197	364	72	12	74	12	60
1986	5494	154	3782	421	52	21	171	12	55
1987	5737	161	3759	502	61	13	232	11	61
1988	5773	167	3729	466	85	14	215	2	69
1989	5277	153	3383	544	77	16	152	2	71
1990	4956	166	3164	603	67	12	125	1	72
1991	4955	185	3235	541	86	16	76	1	79
1992	5390	213	3584	564	115	12	81	3	79

Vene- zuela	Others	N&C AMERICA	Costa Rica	Cuba	Domin- ican Rep	Mexico	Panama	USA	Others	YEAR
19	48	8469	19	105	14	191	5	7647	489	1961
16	69	9540	24	133	11	204	10	8604	554	1962
26	84	10610	35	172	9	279	10	9474	631	1963
33	87	11207	33	201	10	288	11	9954	710	1964
35	90	12729	25	230	12	337	8	11276	841	1965
34	115	14427	29	309	16	397	10	12677	989	1966
43	103	15532	31	325	18	431	8	13645	1075	1967
53	104	16041	48	449	17	499	17	14075	938	1968
47	112	16647	54	467	30	561	19	14577	938	1969
59	140	17614	49	396	38	538	21	15535	1036	1970
67	137	17729	57	292	53	615	24	15580	1108	1971
85	137	18664	48	229	76	679	26	16322	1284	1972
91	180	20261	64	277	76	780	22	17516	1525	1973
129	167	18845	73	302	98	864	28	15941	1539	1974
140	95	22044	66	331	73	1073	25	18914	1561	1975
161	122	23359	56	356	76	1120	23	20059	1671	1976
176	106	22277	67	418	50	1068	23	18676	1976	1977
197	135	24291	80	451	57	1067	23	20471	2143	1978
222	149	24805	79	464	72	1134	30	20941	2085	1979
241	142	25636	74	530	52	1238	31	21480	2233	1980
146	131	24056	72	607	58	1561	30	19439	2288	1981
153	118	21196	72	554	51	1825	27	16416	2251	1982
154	155	24484	88	528	42	1486	23	19768	2550	1983
268	195	24794	96	580	59	1661	28	19688	2682	1984
478	223	22953	81	585	61	1714	26	17831	2656	1985
543	282	22475	85	663	64	1826	35	17286	2516	1986
611	326	23109	95	654	82	1862	38	17792	2586	1987
687	338	22829	101	599	61	1743	39	17733	2554	1988
536	343	23856	107	661	73	1740	33	18709	2532	1989
427	320	23618	109	580	89	1799	39	18587	2417	1990
398	339	23510	120	365	97	1583	25	18784	2535	1991
342	397	23682	125	249	101	1616	31	18983	2577	1992

Table 45. Continued

YEAR	AFRICA	Côte d'Ivoire	Egypt	Guinea	Liberia	Mada-gascar	Mali	Nigeria	Sierra Leone	Tanzania
1961	716	7	242	2	-	1	-	1	-	3
1962	780	6	239	2	-	2	-	2	-	2
1963	880	9	276	2	-	4	-	2	-	3
1964	997	11	305	3	-	4	-	3	-	4
1965	1080	12	338	3	-	5	1	4	1	7
1966	1153	13	288	4	1	6	2	7	1	9
1967	1259	14	281	4	2	8	2	7	1	9
1968	1376	12	321	3	1	7	2	10	1	9
1969	1444	14	348	3	2	13	2	10	2	11
1970	1615	20	373	3	2	14	6	7	3	15
1971	1850	24	372	3	2	13	7	9	1	17
1972	2053	31	419	3	4	14	7	20	1	16
1973	2074	30	404	1	3	9	9	15	2	20
1974	2189	31	429	2	3	9	7	29	1	31
1975	2358	38	501	2	5	6	2	54	3	30
1976	2481	37	497	1	6	9	12	79	1	31
1977	2559	48	543	1	6	8	15	74	1	30
1978	2650	41	581	1	4	11	12	71	1	29
1979	2786	50	604	2	6	7	14	108	3	30
1980	3242	53	664		3	9	14	174	2	36
1981	3535	49	708	1	5	7	9	213	3	29
1982	3479	34	827	1	1	16	11	202	-	24
1983	3373	38	899	-	3	14	10	264	1	23
1984	3488	42	851	-	1	7	50	277	1	35
1985	3687	42	864	-	1	10	20	292	4	39
1986	3561	29	867	1	2	11	15	262	4	45
1987	3491	33	897	1	4	6	16	293	1	48
1988	3726	41	1034	1	3	11	13	312	1	41
1989	3610	39	965	1	3	6	18	378	2	49
1990	3687	36	965	1	-	11	15	400	1	51
1991	3596	44	963	2	-	9	15	429	1	50
1992	3780	49	882	3	-	8	23	566	1	48

a - = magnitude zero.

Source: FAO AGROSTAT 1994. FAO, Rome.

	Zaire	Others	EUROPE	Italy	Portugal	Spain	Others	Former USSR	OCEANIA	Australia	Others	YEAR
-	460	13955	872	138	730	12215	2710	964	671	293	1961	
1	527	14676	887	129	752	12907	3084	943	652	291	1962	
1	582	15805	872	155	746	14032	3582	1101	749	352	1963	
2	666	16919	940	199	767	15013	5029	1441	971	470	1964	
1	709	17936	1082	166	782	15906	6294	1549	1086	463	1965	
2	821	18923	1111	133	882	16797	6983	1544	1128	415	1966	
3	930	20778	1123	179	932	18545	7736	1456	1091	365	1967	
3	1007	22175	1160	181	1068	19766	8244	1566	1141	424	1968	
4	1035	23249	1231	203	1112	20703	8883	1500	1048	452	1969	
5	1167	24883	1338	129	1216	22200	10312	1428	971	456	1970	
5	1397	26368	1450	133	1395	23390	11346	1552	1068	485	1971	
4	1535	27123	1541	229	1419	23934	12360	1858	1308	550	1972	
7	1574	28792	1412	237	1521	25622	13461	2207	1534	673	1973	
7	1640	27316	1272	212	1493	24339	14740	1346	867	480	1974	
11	1707	28482	1490	245	1402	25346	17243	1255	722	534	1975	
13	1796	29340	1435	248	1695	25962	17732	1528	981	548	1976	
9	1824	29940	1795	270	1411	26464	18026	1595	1014	580	1977	
9	1889	31822	2239	248	1620	27717	18412	1690	1084	606	1978	
7	1954	32757	2355	275	1685	28442	17358	1785	1214	571	1979	
8	2280	31196	2111	259	1662	27164	18756	1651	1162	488	1980	
8	2503	31401	2057	275	1377	27692	19167	1640	1144	495	1981	
7	2357	31205	2004	259	1485	27458	20144	1626	1126	499	1982	
9	2112	32057	2064	225	1456	28311	22968	1732	1178	554	1983	
12	2212	32070	2091	217	1639	28123	23071	1771	1230	541	1984	
7	2409	31747	2102	241	1734	27670	25387	1606	1155	451	1985	
2	2324	32352	2061	269	1855	28166	26506	1641	1254	387	1986	
6	2187	31811	2303	283	2021	27205	27403	1757	1349	408	1987	
3	2266	32487	2092	295	2094	28006	27187	1744	1387	357	1988	
8	2142	31249	1813	274	2052	27110	24474	1810	1393	417	1989	
6	2200	26383	1948	278	1976	22180	21644	1564	1164	400	1990	
8	2075	22274	1986	251	1882	18155	19463	1703	1244	459	1991	
2	2197	19866	1867	258	1535	16206	12159	1898	1350	548	1992	

Table 46. Global rice pesticide sales (million US\$), 1980-93.^a

YEAR	Bangladesh	China ^b	India	Indonesia	Japan	Korea Rep	Myanmar	Pakistan	Philippines	Thailand	Vietnam	Brazil	Colombia	USA	EUROPE	Other countries
1980	...	65	48	25	378	33	7	18	23	20	30	24	42	43	40	38
1981	...	132	114	35	727	71	8	26	36	25	37	25	55	41	66	38
1982	...	145	130	40	716	75	8	29	42	28	37	25	58	43	69	40
1983	...	150	137	43	693	75	8	31	43	30	32	20	35	37	62	40
1984	62	179	139	46	708	60	20	15	41	40	35	21	44	45	55	34
1985	66	196	153	55	931	70	22	16	46	46	38	22	66	57	60	55
1986	61	184	149	48	1209	115	22	18	51	45	41	22	63	63	66	58
1987	62	200	140	55	1505	136	25	21	46	41	43	24	63	80	74	67
1988	47	190	166	118	1400	155	30	20	39	43	62	18	83	92	77	40
1989	55	215	183	135	1315	178	34	25	45	51	66	20	88	102	91	60
1990	64	230	220	148	1400	225	45	28	50	57	70	25	107	104	117	87
1991	62	240	235	156	1300	285	46	32	62	61	59	75	126	99	114	95
1992	60	204	199	172	1325	294	55	34	79	75	99	48	122	86	97	212
1993	25	295	173	51	1625	320	21	14	38	35	84	37	120	77	97	98

Table 47. Global rice herbicide sales (million US\$), 1980-93.^a

YEAR	Bangladesh	China	India	Indonesia	Japan	Korea Rep	Myanmar	Philippines	Thailand	Vietnam	Brazil	Colombia	USA	EUROPE	Other countries
1980	...	10	8	7	248	8	...	4	7	...	20	...	42	22	24
1981	...	14	10	7	292	10	...	5	8	...	25	...	55	25	29
1982	...	15	14	8	285	12	...	7	10	...	25	...	58	25	31
1983	...	15	14	9	270	12	...	8	11	...	20	...	35	25	31
1984	12	14	13	10	265	8	10	9	10	8	21	...	42	28	35
1985	14	16	15	15	365	18	12	10	12	10	24	...	64	35	40
1986	12	20	18	12	475	20	12	12	14	10	25	...	60	40	35
1987	12	24	17	14	590	25	11	14	12	11	23	...	58	54	40
1988	13	8	20	16	570	28	10	12	14	10	32	...	61	48	33
1989	14	10	23	18	560	33	12	14	15	12	33	...	65	53	38
1990	15	10	28	18	575	43	12	14	15	12	33	...	82	55	38
1991	12	15	33	20	530	88	10	16	18	10	22	36	90	55	25
1992	10	14	30	22	530	90	10	16	24	15	60	35	98	62	24
1993	5	80	23	6	659	110	5	11	18	6	55	25	100	55	12

^a Data relate to actual sales in each country at the enduser (grower) level.^b Excluding Taiwan Province.^c ... = data not available.

Source: Wood Mackenzie Consultants Limited, London. Used with permission.

Table 48. Global rice insecticide sales (million US\$), 1980-93.^a

YEAR	Bangladesh	China ^b	India	Indonesia	Japan	Korea Rep	Myanmar	Pakistan	Philippines	Thailand	Vietnam	Brazil	Colombia	USA	EUROPE	Other countries
1980	...	55	40	18	130	25	7	14	16	20	10	24	...	21	20	50
1981	...	80	90	20	210	35	8	15	18	25	12	25	...	16	16	50
1982	...	85	100	22	206	35	8	16	20	28	12	25	...	18	16	54
1983	...	90	105	24	208	35	8	17	20	30	12	20	...	12	15	54
1984	38	115	110	26	211	26	8	...	22	28	12	21	...	15	14	34
1985	40	140	123	30	270	28	8	...	25	32	12	22	...	20	20	55
1986	37	120	115	26	350	50	8	...	27	30	13	22	...	20	24	58
1987	40	128	108	30	460	57	10	...	25	25	15	24	...	21	30	67
1988	20	148	128	75	450	65	10	...	12	25	8	18	...	22	24	40
1989	25	165	140	85	410	75	12	...	15	29	10	20	...	26	28	60
1990	30	175	168	95	435	94	18	...	19	33	12	25	...	24	35	87
1991	30	177	174	98	400	105	19	...	21	38	15	27	14	22	35	95
1992	30	153	141	110	350	120	24	...	28	44	25	2	10	10	18	212
1993	10	160	120	40	441	128	10	...	15	24	19	2	10	12	16	98

Table 49. Global rice fungicide sales (million US\$), 1980-93.^a

COUNTRY	Bangladesh	China ^b	India	Indonesia	Japan	Korea Rep	Myanmar	Philippines	Thailand	Vietnam	Brazil	Colombia	USA	EUROPE	Other countries
1980	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1981	...	38	14	8	225	26	...	6	10	...	...	...	...	...	33
1982	...	45	16	10	225	28	...	6	12	...	...	...	...	...	38
1983	...	45	18	10	215	28	...	6	12	...	...	...	...	...	32
1984	12	50	16	10	232	26	4	6	9	4	2	...	2	1	6
1985	12	40	15	10	296	24	4	6	9	4	2	...	2	1	5
1986	12	44	16	10	384	45	4	6	10	5	3	...	3	2	7
1987	10	48	15	11	455	54	4	7	9	5	5	...	5	3	11
1988	14	34	18	27	380	62	10	8	13	8	22	...	22	5	15
1989	16	40	20	32	345	70	10	11	15	10	23	...	23	7	25
1990	19	45	24	35	390	88	15	14	16	12	25	...	25	10	44
1991	20	48	28	38	370	92	17	16	23	13	22	12	22	10	54
1992	20	37	28	40	445	84	16	18	27	16	14	11	14	7	55
1993	10	55	30	5	525	82	5	3	5	5	10	10	10	6	69

^a Data relate to actual sales in each country at the enduser (grower) level.^b Excluding Taiwan Province.^c ... = data not available.

Source: Wood Mackenzie Consultants Limited, London.

Table 50. Retail prices (domestic currency/t) of nitrogen from urea, selected countries, 1961-91.

YEAR	Bangladesh (taka)	India (rupee)	Indonesia (000 rupiah)	Iran (000 rial)	Iraq (dinar)	Japan (000 yen)	Korea Rep (000 won)	Malaysia (M\$)
1961	527	1610	18	...	...	87	34	780
1962	592	1550	38	...	...	87	34	...
1963	592	1340	42	...	...	87	34	...
1964	658	1340	46	...	...	87	34	...
1965	658	1400	51	...	...	85	60	...
1966	962	1565	56	...	...	83	60	...
1967	962	2033	62	...	...	81	51	...
1968	962	2085	69	...	76	79	51	...
1969	962	2404	69	...	76	79	59	...
1970	962	2050	59	18	...	76	59	...
1971	878	2015	61	17	...	74	59	...
1972	1164	2080	59	17	83	76	65	...
1973	2038	2180	89	20	83	79	65	540
1974	2912	4005	133	19	50	102	85	1610
1975	2912	4102	178	19	...	115	140	1650
1976	3494	3765	156	19	...	122	266	1022
1977	3494	3480	152	19	...	128	266	869
1978	4076	3352	152	20	...	126	266	954
1979	5127	3150	151	20	...	140	265	1258
1980	6156	4150	152	20	...	194	292	1448
1981	7278	4920	152	20	...	195	466	1553
1982	8622	5109	196	20	...	184	531	1294
1983	8622	4783	196	20	...	179	521	822
1984	10141	4674	217	20	...	175	542	960
1985	10435	4746	272	20	...	173	542	891
1986	10697	5110	272	20	...	137	542	706
1987	10880	5110	293	20	...	118	542	706
1988	10576	5110	358	20	...	113	542	706
1989	10826	5110	402	20	...	112	542	1024
1990	11217	5110	438	20	...	113	346	1024
1991	10763	6308	472	20	...	120	345	1111

^a ... = data not available.

Sources: FAO production year, annual fertilizer review, fertilizer yearbook,
Rome (various issues).
Taiwan Council of Agriculture, Executive Yuan (unpublished data).

Myanmar (kyat)	Nepal (rupee)	Pakistan (rupee)	Philippines (peso)	Sri Lanka (rupee)	Taiwan, China (000 NT\$)	Thailand (000 baht)	YEAR
...	...	527	700	620	16	6	1961
...	...	589	...	611	15	4	1962
...	...	657	...	635	14	4	1963
...	...	734	...	755	16	5	1964
1630	...	734	...	926	15	7	1965
1300	...	1055	998	926	14	7	1966
1300	2990	1043	998	879	14	7	1967
1300	2990	1229	998	943	14	7	1968
1200	2990	1229	1112	886	13	7	1969
957	2917	1239	...	886	11	7	1970
826	3337	1239	1440	886	10	7	1971
826	3337	1670	573	886	9	8	1972
783	4767	2489	978	1118	9	13	1973
783	4767	3261	1822	2873	10	16	1974
783	5635	3261	1511	4022	13	16	1975
783	5304	2956	3318	2098	13	9	1976
783	5304	2956	3246	2256	13	7	1977
783	5304	2793	3887	2915	8	8	1978
783	5304	3175	4372	2130	8	9	1979
783	6739	4043	4826	4652	8	12	1980
783	6739	4152	5679	4652	11	15	1981
783	7609	4913	5598	6054	13	15	1982
783	7609	5565	5779	6196	18	14	1983
783	7609	5565	12056	6196	20	13	1984
783	9130	5565	11450	6196	20	13	1985
783	8674	5565	6819	6196	19	9	1986
783	8674	5565	6350	6196	16	8	1987
783	8674	5526	8558	7935	...	10	1988
1435	8674	...	9030	2935	...	11	1989
4696	8674	...	11361	17391	...	11	1990
4696	11172	...	15059	20870	...	12	1991

Table 51. World prices (US\$/t fob) of major fertilizer raw materials, 1961-93.

YEAR	Fertilizer grade				Fertilizer grade		
	Urea ^a (Europe)	Ammonium sulphate ^b (W. Europe)	Diammonium phosphate ^a (US Gulf Ports)	Triple super- phosphate ^a (US Gulf Ports)	Potassium chloride ^b (Vancouver, Canada)	Compound 15-15-15 ^b (W Europe)	Phosphate rock ^a FAS, Casablanca, (West Morocco)
1961	91	...	...	...	30	...	13
1962	94	...	...	...	30	...	12
1963	72	...	...	43	30	...	12
1964	91	...	...	43	32	...	12
1965	96	...	...	47	30	...	14
1966	89	...	...	47	28	...	13
1967	79	...	68	47	26	...	12
1968	66	...	66	38	24	...	11
1969	56	...	58	39	22	...	11
1970	48	18	54	43	32	...	11
1971	46	18	62	43	32	...	11
1972	59	28	91	68	34	...	12
1973	95	40	119	100	42	...	14
1974	316	118	333	304	60	192	56
1975	198	94	243	202	81	185	67
1976	112	38	120	91	55	115	36
1977	127	58	133	97	51	122	31
1978	145	68	140	98	56	135	29
1979	173	72	193	146	77	175	33
1980	222	90	222	180	111	220	47
1981	216	74	195	161	116	186	47
1982	159	58	183	138	79	147	41
1983	135	48	184	135	75	142	37
1984	171	64	190	131	85	153	39
1985	136	59	169	121	84	154	34
1986	107	38	154	121	69	136	34
1987	117	46	174	138	69	142	31
1988	155	60	197	158	88	159	36
1989	132	58	173	144	99	161	41
1990	157	...	171	132	98	...	41
1991	172	...	173	133	109	...	43
1992	140	...	145	121	112	...	43
1993	107	...	...	112	...	...	33

^a Sources: World Bank. Commodity trade and price trends. The Johns Hopkins University Press, Baltimore and London (various issues).
World Bank. 1987 and 1993. Half-yearly revision of commodity forecasts and quarterly review of commodity markets.

^b Source: FAO Food Outlook. Rome (various issues).

^c ... = data not available.

Rice costs and returns

Table 52. Socioeconomic characteristics of rice farming, selected countries, 1987-90.

Bangladesh, 1987-88.

	Local T. ^a aman	MV aman	Broadcast aman	Local aus	MV boro aus
Date coverage	1987	1987	1988	1988	1988
No. of farms ^b	... ^c	...	...	...	...
Yield (kg/ha)	2630	3500	2020	1690	5070
Farm size (ha)	...	...	...	...	...
Tenure (% renter) ^d	...	...	...	...	...
% MV adoption	... ^c	100	-	-	100
% tractor adoption	-	-	-	-	-
% thresher adoption	-	-	-	-	-
% direct seeding	-	-	-	-	-
Fertilizer (kg/ha)	45	126	26	27	150
N	28	70	15	16	85
P	13	43	7	9	46
K	4	13	4	2	19
Labor use (labor days/ha)	132	159	149	152	203
% hired labor	42	50	46	44	53
Rice cropping intensity	...	...	...	...	...
Total cropping intensity	...	...	...	...	...
Paddy price (US\$/kg)	0.19	0.19	0.18	0.17	0.18
Urea price (US\$/kg of N)	0.35	0.35	0.35	0.35	0.35

^aT means transplanted.^bBased on 260 farmers from 62 villages in Bangladesh.^c. = magnitude zero; ... = data not available.^dIncludes share tenants and leaseholders.

Source: Hossain M., M.A. Quasem, M.M. Akash, and M.A. Jabbar. Differential impact of modern rice technology across production environments in Bangladesh.

Bangladesh Institute of Development Studies, Dhaka, Bangladesh Rice Research Institute, Joydebpur and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

	Low elevation	High elevation
Date coverage	1987	1987
No of farms	60	58
Yield (kg/ha)	3390	2871
Farm size (ha)	2.94	2.2
Tenure (% renter) ^a	13	21
% MV adoption	3	-
% Tractor adoption	.. ^b	-
% Thresher adoption	...	...
% Direct seeding	...	...
Fertilizer (kg/ha)	203	159
N	125	129
P	39	15
K	39	15
Labor use (labor days/ha)	182	141
% Hired labor	-	-
Rice cropping intensity	...	...
Total cropping intensity	...	...
Paddy price (US\$/kg)	0.25	0.25
Urea price (US\$/kg of N)	0.37	0.37

^a Includes share tenants and leaseholders.

Based on farmer interviews from 10 villages each for low and high elevation in the Punakha-Wangdiphodrang Valley.

^b - = magnitude zero; ... = data not available.

Source: Dorji, Nim, J.C. Flinn, and C. Maranan, Rice production in the Wangdiphodrang Valley of Bhutan. IRRI Research Paper Series No. 140. International Rice Research Institute, Los Baños, Philippines.

Table 52. Continued

Cambodia, 1988-89.

	Rainfed ^a				Irrigated ^b	
	Upper	Middle	Lower	Med-deep	WS	DS
Date coverage	1988	1988	1988	1988	1988	1989
No. of farms	19	13	18	6	14	15
Yield (kg/ha)	2100	1800	2400	2200	1927	2721
Farm size (ha)	0.23	... ^c	0.42	...	0.66	0.58
Tenure (% renter) ^d	...	...	...	...	...	...
% MV adoption	... ^c	-	-	-	23	1
% Thresher adoption	-	-	-	-	-	-
% Direct seeding	-	-	-	-	5	-
Fertilizer (kg/ha)	30	24	42	24	53	46
N	24	18	35	20	41	40
P	6	4	7	4	11	6
K	-	-	-	-	-	-
Labor use (labor days/ha)	175	176	167	138	94	123
% hired labor	47	41	42	36	19	16
Rice cropping intensity	...	...	...	...	...	...
Total cropping intensity	...	...	...	...	...	...
Paddy price (US\$/kg)	0.05	0.05	0.05	0.05	0.05	0.05
Urea price (US\$/kg of N)	0.10	0.10	0.10	0.10	0.10	0.10

^a Based on farmer interviews in the provinces of Kandal, Kompong Speu, and Takeo.

Upper - areas experiencing severe drought (at least 1 out of 5 years)

and with water level from 5-10 cm. Middle = less drought prone areas with water level from 10-25 cm. Lower = low banded areas with accumulated level of water from 25-40 cm up to 30 days.

Medium = deep high banded areas with accumulated level of water from 25-40 cm up to 30 days.

^b Based on farmer interviews in the provinces of Takeo, Kompong Speu, and S. Rieng.

WS means wet season and DS means dry season.

^c - = magnitude zero; ... = data not available.^d Includes share tenants and leaseholders.

Source: For Rainfed : Fujisaka, S., and R. Lando. Rice research for the rainfed lowlands of Cambodia: building on farmer practice and knowledge. Social Sciences Division, International Rice Research Institute, Los Baños, Philippines. July, 1989 (unpublished).

For Irrigated : Pingali, P.L. Setting priorities for rice research in Cambodia, Social Sciences Division, International Rice Research Institute, Los Baños, Philippines. Forthcoming.

	Mountain area		Hilly area		Plain area	
	County 1 ^a	County 2 ^b	County 3 ^c	County 4 ^d	County 5 ^e	County 6 ^f
Date coverage	1988	1988	1988	1988	1988	1988
No. of farms	100	100	100	100	100	100
Yield (kg/ha)	5130	6380	6190	5790	4740	5000
Farm size(ha)	0.21	0.22	0.22	0.24	0.25	0.30
Tenure (% renter) ^g	... ^h	...	...	...	...	...
% MV adoption	39	96	33	52	25	40
% tractor adoption	6	.. ^h	19	20	57	14
% thresher adoption	1	-	100	-	21	12
% direct seeding	-	-	-	-	-	-
Fertilizer (kg/ha)	93	63	106	106	181	171
N	63	46	81	75	124	114
P	16	15	16	17	52	43
K	14	2	9	14	5	14
Labor use (labor days/ha)	268	334	204	237	197	194
% hired labor	14	7	4	5	7	5
Rice cropping intensity	139	74	159	157	117	136
Total cropping intensity	181	136	193	186	170	206
Paddy price (US\$/kg) ⁱ	0.09	0.09	0.09	0.09	0.09	0.09
Urea price (US\$/kg of N)	0.11	0.11	0.11	0.11	0.11	0.11

^a County 1 refers to Taojiang.^b County 2 refers to Zhijiang.^c County 3 refers to Xiangxiang.^d County 4 refers to You.^e County 5 refers to Nanxian.^f County 6 refers to Anxiang.^g Includes share tenants and leaseholders.^h - = magnitude zero; ... = data not available.ⁱ Government set price.

Source: Lin Yifu, Justin. Differential impact of modern rice technology across production environments in China. Department of Rural Economic Development, Development Research Center, China, and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

Table 52. Continued

Indonesia, WS, 1987-88.

	Irrigated		Rainfed		Upland	Tidal swamp
	W. Java ^a	C. Java ^b	C. Java ^c	Lampung ^d	Lampung ^d	S. Kalimantan ^e
Date coverage	1988	1987	1987	1987	1987	1987
No. of farms	71	82	99	160	160	49
Yield (kg/ha)	6336	5509	3810	3487	1800	2653
Farm size (ha)	1.91	0.57	0.37	0.88	1.51	1.34
Tenure (% renter) ^f	21	48	32	11	2	30
% MV adoption	56	100	100	100	-	-
% tractor adoption	97	43	7	-	-	-
% thresher adoption	73	- ^g	-	-	-	-
% direct seeding	-	-	-	-	100	-
Fertilizer (kg/ha)	176	197	217	115	54	60
N	95	103	118	86	40	32
P	76	94	99	29	14	28
K	5	-	-	-	-	-
Labor use (labor days/ha)	106	126	135	174	70	114
% hired labor	87	65	34	52	50	56
Rice cropping intensity	... ^g	253	141	127	100	91
Total cropping intensity	...	253	241	188	182	91
Paddy price (US\$/kg)	0.13	0.12	0.11	0.11	0.13	0.13
Urea price (US\$/kg of N)	0.17	0.18	0.17	0.16	0.18	0.32

^a Based on farmer interviews in the villages of Sukadana, Anjatan, Bojuntengah and Tambakdahan, West Java.

^b Based on farmer interviews in the villages of Kabunan and Kr. Moncol in Central Java.

^c Based on farmer interviews in the villages of Tambirejo and Kemiri in Central Java.

^d Based on farmer interviews in four villages each for rainfed and upland in Lampung.

^e Based on farmer interviews in the village of Indah Sari in South Kalimantan.

^f Includes share tenants and leaseholders.

^g - = magnitude zero; ... = data not available.

Sources: W. Java^a : Pingali, P.L. Sustaining post-green revolution productivity growth. Social Sciences Division, International Rice Research Institute, Forthcoming.

C. Java^b, C. Java^c and S. Kalimantan^e: Sudaryanto, T., F. Kasiryo and M. Gunawan. Differential impact of modern rice technology across production environments in Indonesia. Center for Agro-Economic Research, Bogor, Indonesia and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

Lampung^d: Jatlieksono, T. Differential impact of modern rice technology across production environments in Lampung, Indonesia. Gadjah Mada University, and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

	Upland	Irrigated
Date coverage ^a	WS 1987	DS 1987
No. of farms	89	29
Yield (kg/ha)	1000	2300
Farm size (ha)	2.20	1.90
Tenure (% renter) ^b	6	31
% MV adoption	38	25
% tractor adoption	.. ^c	-
% thresher adoption	-	-
% direct seeding	-	-
Fertilizer (kg/ha)	-	-
N	-	-
P	-	-
K	-	-
Labor use (labor days/ha)	178	186
% hired labor	40	57
Rice cropping intensity	... ^c	...
Total cropping intensity	...	...
Paddy price (US\$/kg)	0.14	0.06
Urea price (US\$/kg of N)	...	...

^a WS means wet season and DS means dry season.

^b Includes share tenants and leaseholders.

^c - = magnitude zero; ... = data not available.

Based on farmer interviews in 17 villages of Marovoay Plains, Madagascar.

Source: Abet Ratovo H., F. Andrianilana, D. Andrianoroana, J.C. Flinn, M. Mercado, and J. Hopper. Preliminary review of rice farming system of the Marovoay Plains. Folbem-Pirenena Momba ny Fikoroana Amphiharina Amin'ny Fampandrosoana ny Ambanivohitra/MRSTD, Antananarivo, and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines (unpublished paper).

Table 52. Continued

Nepal, 1987.

	Irrigated		Rainfed	
	Village 1 ^a	Village 2 ^b	Village 3 ^c	Village 4 ^d
Date coverage	DS1987	DS1987	WS1987	WS1987
No. of farms	55	55	55	55
Yield (kg/ha)	2880	2400	2220	1900
Farm size (ha)	2.03	1.60	2.07	1.30
Tenure (% renter) ^f	33	20	12	25
% MV adoption	100	85	80	5
% tractor adoption	69	-	13	-
% thresher adoption	- ^g	-	-	-
% direct seeding	... ^g	...	...	...
Fertilizer (kg/ha)	42	30	13	16
N	30	15	9	8
P	11	15	4	8
K	1	-	-	-
Labor use (labor days/ha)	128	159	114	149
% hired labor	63	74	46	68
Rice cropping intensity	100	98	97	68
Total cropping intensity	209	193	170	196
Paddy price (US\$/kg)	0.15	0.18	0.14	0.18
Urea price (US\$/kg of N)	0.44	0.44	0.44	0.44

^a Village 1 refers to Anandban in Western Tarai Region.^b Village 2 refers to Bhaktipur in Central Tarai Region.^c Village 3 refers to Ramapur in Western Tarai Region.^d Village 4 refers to Sahebganj Central Tarai Region.^e DS means dry season and WS means wet season.^f Includes share tenants and leaseholders.^g - = magnitude zero; ... = data not available.

Sources: Upadhyaya, H.K. and Ganesh Thapa. Differential impact of modern rice technology across production environments in Nepal. National Agricultural Research Center, Central Socioeconomic Research Division, Department of Food, Agriculture and Marketing Services, Nepal, and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

	Zone 1 ^a	Zone 2 ^b
Date coverage	1988	1988
No. of farms	341221	453471
Yield (kg/ha)	3330	1780
Farm size (ha)	2.00	0.11
Tenure (% renter) ^c	46	23
% MW adoption	83	88
% tractor adoption	... ^d	...
% thresher adoption	...	...
% direct seeding	... ^d	-
Fertilizer (kg/ha)	88	45
N	70	33
P	18	6
K	-	6
Labor use (labor days/ha)	68	52
% hired labor	18	44
Rice cropping intensity	86	5
Total cropping intensity	...	...
Paddy price (US\$/kg)	0.10	0.10
Urea price (US\$/kg of N)	0.36	0.36

^a Zone 1 refers to the rice zone of Sind.

^b Zone 2 refers to the cotton zone of Sind.

^c Includes share tenants and leaseholders.

^d - = magnitude zero; ... = data not available.

Source: Mubarik, ALI. 1991. National farm income estimates by crop enterprise, size, and zone. A report written for Economic Policy Analysis (EPA), USAID.

Table 52. Continued

Philippines, 1987-89.

	Irrigated				Rainfed ^c	Upland ^d
	Gravity ^a		Deepwell ^b			
	(1)	(2)	(3)	(4)		
Date coverage ^e	WS1987	DS1989	WS1988	DS1989	WS1988	WS1988
No. of farms	113	107	20	20	21	17
Yield (kg/ha)	4172	6175	4854	4329	3468	913
Farm size (ha)	2.14	2.01	1.02	0.98	0.76	1.10
Tenure (% renter) ^f	52	52	45	45	76	40
% MV adoption	100	100	100	100	100	-9
% tractor adoption	97	97	92	96	77	-
% thresher adoption	100	100	100	98	100	-
% direct seeding	53	57	-	21	-	100
Fertilizer (kg/ha)	109	149	96	153	86	16
N	68	97	78	124	71	16
P	31	40	12	18	9	-
K	10	12	6	11	6	-
Labor use (labor days/ha)	70	74	66	79	69	73
% Hired labor	70	61	76	62	59	59
Rice cropping intensity	200	200	192	...	100	100
Total cropping intensity	200	200	195	...	105	140
Paddy price (US\$/kg)	0.16	0.18	0.15	0.21	0.15	0.14
Urea price (US\$/kg of N)	0.30	0.39	0.40	0.39	0.40	0.44

^a Based on farmer interviews in the village of Maragol, Nueva Ecija.^b Based on farmer interviews in the village of Macatcatuit, Guimba, Nueva Ecija.^c Based on farmer interviews in the village of Bacayao, Guimba, Nueva Ecija.^d Based on farmer interviews in the villages of Patocinio, Hinaplanan, Gumaod, Cabacungan and Piaridel, Claveria, Misamis Oriental.^e WS means wet season and DS means dry season.^f Includes share tenants and leaseholders.^g - = magnitude zero; ... = data not available.Sources: Irrigated Gravity^a: Otsuka, K., E. Marciano, D. Palis, and Y. Hayami. Modern rice technology, land reform and agrarian contracts: the case of Central Luzon. Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.Irrigated Deepwell^b and Rainfed^c: Mandac, A., J. Narciso, and J.C. Flinn.

Socioeconomic constraints to crop diversification and intensification in Guimba, Nueva Ecija, Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

Upland^d: Mandac, A., R.D. Magbanua and M.P. Genesisila. Multiple Cropping Systems in northern Mindanao, Philippines. Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

	Irrigated		Rainfed		Deepwater
	Central plain ^a	Central plain ^b	Northeast ^c	Central plain ^d	Central 1 plain ^e
Date coverage ^f	1987	DS1988	1987	1987	1987
No. of farms	45	146	104	56	41
Yield (kg/ha)	4200	3822	1476	1300	2300
Farm size (ha)	2.81	3.23	2.18	6.50	8.40
Tenure (% renter) ^g	28	83	15	18	48
% MV adoption	61	86	.. ^h	-	-
% tractor adoption	100	100	12	98	100
% thresher adoption	100	100	5	100	100
% direct seeding	89	87	-	100	80
Fertilizer (kg/ha)	77	121	55	4	-
N	77	80	40	4	-
P	-	41	9	-	-
K	-	-	6	-	-
Labor use (labor days/ha)	58	42	73	40	37
% hired labor	49	39	13	28	50
Rice cropping intensity	181	... ^h	100	100	100
Total cropping intensity	195	...	100	100	100
Paddy price (US\$/kg) ⁱ	0.15	0.15	0.13	0.14	0.15
Urea price (US\$/kg of N)	0.48	0.41	0.48	0.57	...

^a Based on farmer interviews in the village of Wang Yang in Suphan Buri, Central Plain.

^b Based on farmer interviews in the villages of Don Chedi and Rai Rot districts in Suphan Buri, Central Plain.

^c Based on farmer interviews in the villages of Ban Kaina and Ban Meng in Khon Kaen in Northeast.

^d Based on farmer interviews in the village of Saka Chome in Suphan Buri, Central Plain.

^e Based on farmer interviews in the village of Jora Kae Yai in Suphan Buri, Central Plain.

^f Data for Irrigated Central plain^f, rainfed and deepwater are weighted average of wet and dry seasons, weights being the ratio of planted area.
DS means dry season.

^g Includes share tenants and leaseholders.

^h .. = magnitude zero; ... = means data not available.

ⁱ Refers to wet season price.

Sources: Irrigated Central Plain^a, Rainfed and Deepwater: Isvilanonda, S., and S. Wattanutchariya.

The differential impact of modern rice technology across production environments in Thailand. Kasetsart University, Bangkok, Thailand, and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

Irrigated Central Plain^b: Pingali, P.L. Sustaining post-green revolution productivity growth in Asia's rice bowls. Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

Table 52. Continued

Vietnam (southern) WS, 1990.

	Irrigated	Deepwater
Date coverage	1990	1990
No. of farms	121	142
Yield (kg/ha)	4600	2600
Farm size(ha)	1.30	2.10
Tenure (% renter) ^a	5	2
% MV adoption	100	. ^b
% tractor adoption	68	64
% thresher adoption	95	100
% direct Seeding	100	100
Fertilizer (kg/ha)	173	15
N	123	7
P	50	8
K	-	-
Labor use (labor days/ha)	89	39
% hired labor	38	51
Rice cropping intensity	200	100
Total cropping intensity	200	169
Paddy price (US\$/kg)	0.10	0.13
Urea price (US\$/kg of N)	0.30	0.20

Based on farmer interviews from 7 villages in southern Vietnam.

^a Includes share tenants and leaseholders.^b - = magnitude zero.

Source: Cantho University and International Rice Research Institute. Farming practices and socioeconomic characteristics of selected deepwater rice and irrigated villages in the Mekong Delta of Vietnam. Cantho University, Vietnam and Social Sciences Division, International Rice Research Institute, Los Baños, Philippines.

Table 53. Measures of costs and returns of rice farming, selected countries, 1987-90.

Bangladesh (US\$/ha), 1987-88.

	Local T. aman	MV aman	Broadcast aman	Local aus	MV boro aus
I. Gross return ^a	550	710	391	307	923
II. Total costs					
1. Current inputs	40	119	28	47	211
a. Fertilizer	15	43	9	9	50
b. Chemicals	1	8	2	2	11
c. Others	24	68	18	35	150
2. Fixed capital	70	95	56	65	67
a. Rented	6	31	7	5	9
b. Owned ^b	65	64	49	60	58
3. Labor	134	169	153	144	205
a. Hired	60	73	69	60	103
b. Owned ^b	74	96	84	84	101
4. Land ^c	305	327	154	51	440
a. Rented ^d	... ^j	...	...	...	...
b. Owned ^e	...	...	...	...	...
III. Net return					
1. To own factors ^f	444	487	286	196	600
2. To own fixed capital, own labor, and land ^g	444	487	286	196	600
3. To labor and land or net value added ^h	439	496	307	195	645
4. Net value added per labor day (US\$) ⁱ	3.32	3.11	2.06	1.28	3.18

^a Gross return includes gross value of rough rice and byproducts.^b Valued based on prevailing rents and wage task.^c Estimated as residual (I - II1 - II2 - II3).^d Cost of rented land is computed by dividing the total land rent paid
r by share tenants and fix renters by total sample area.^e II4b = I - II1 - II2 - II3 - II4a.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.^j ... = data not available.

Table 53. Continued

Bhutan (US\$/ha), DS, 1987.

	Low elevation	High elevation
I. Gross return ^a	848	718
II. Total costs		
1. Current inputs	90	73
a. Fertilizer	90	73
b. Chemicals	- ^j	-
c. Others	-	-
2. Fixed capital	72	56
a. Rented	-	-
b. Owned ^b	72	56
3. Labor	356	276
a. Hired	-	-
b. Owned ^b	356	276
4. Land ^c	330	313
a. Rented ^d	-	-
b. Owned ^e	330	313
III. Net return		
1. To own factors ^f	758	645
2. To own fixed capital, own labor, and land ^g	758	645
3. To labor and land or net value added ^h	686	589
4. Net value added per labor day (US\$) ⁱ	3.76	4.17

^a Gross return includes gross value of rough rice and byproducts.^b Valued based on prevailing rents and wage task.^c Estimated as residual (I - II1 - II2 - II3).^d Cost of rented land is computed by dividing the total land rent paid r by share tenants and fix renters by total sample area.^e II4b = I - II1 - II2 - II3 - II4a.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.^j - = magnitude zero.

	Rainfed				Irrigated	
	Upper	Middle	Lower	Med-deep	WS	DS
I. Gross return ^a	105	90	120	110	100	124
II. Total costs						
1. Current inputs	15	12	17	11	20	18
a. Fertilizer	8	5	11	6	13	10
b. Chemicals	- ^j	-	-	-	2	1
c. Others	7	7	6	5	5	7
2. Fixed capital	-	-	-	-	-	-
a. Rented	-	-	-	-	-	-
b. Owned ^b	-	-	-	-	-	-
3. Labor	60	61	58	38	60	79
a. Hired	28	25	34	30	8	12
b. Owned ^b	32	36	24	8	52	67
4. Land ^c	30	17	45	61	20	27
a. Rented ^d	-	-	-	-	-	-
b. Owned ^e	30	17	45	61	20	27
III. Net return						
1. To own factors ^f	62	53	69	69	72	94
2. To own fixed capital, own labor, and land ^g	62	53	69	69	72	94
3. To labor and land or net value added ^h	90	78	104	99	80	106
4. Net value added per labor day (US\$) ⁱ	0.51	0.44	0.62	0.72	0.85	0.86

^a Gross return includes gross value of rough rice and byproducts.

^b Valued based on prevailing rents and wage task.

^c Estimated as residual (I - II1 - II2 - II3).

^d Cost of rented land is computed by dividing the total land rent paid
r by share tenants and fix renters by total sample area.

^e II4b = I - II1 - II2 - II3 - II4a.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

^j - = magnitude zero.

Table 53. Continued

Hunan Province, China PR, (US \$/ha), 1988.

	Mountain area		Hilly area		Plain area	
	County 1	County 2	County 3	County 4	County 5	County 6
I. Gross return ^a	469	583	566	529	433	457
II. Total costs						
1. Current inputs	138	127	169	140	126	122
a. Fertilizer	91	68	114	90	70	77
b. Chemicals	27	24	28	21	15	19
c. Others	20	35	27	29	41	26
2. Fixed capital	68	136	49	56	32	35
a. Rented	3	135	46	9	8	9
b. Owned ^b	65	-g	3	47	25	26
3. Labor and land ^c	263	321	348	333	275	300
III. Net return						
1. To own factors ^d	328	321	351	380	299	326
2. To labor and land or net value added ^e	263	321	348	333	275	300
3. Net value added per labor day (US\$) ^f	0.98	0.96	1.70	1.41	1.40	1.55

^a Gross returns includes gross value of rough rice and byproducts.^b Valued based on prevailing rents and wage task.^c Due to insignificant labor and land markets, returns to land and labor cannot be separated.^d III1 = I - II1 - II2a.^e III3 = I - III1 - II2.^f III4 = III3 divided by labor day.^g - = magnitude zero.

	Irrigated		Rainfed		Upland	Tidal swamp
	W.Java	C.Java	C.Java	Lampung	Lampung	S.Kalimantan
I. Gross return ^a	837	678	535	414	196	349
II. Total costs						
1. Current inputs	59	83	64	48	40	10
a. Fertilizer	34	...	...	26	19	...
b. Chemicals	20	...	...	10	6	...
c. Others	5	...	...	12	15	...
2. Fixed capital	17	38	2	43	28	1
a. Rented	17	24	-	24	12	-
b. Owned ^b	...	14	2	19	16	1
3. Labor	165	172	201	184	74	163
a. Hired	150	116	71	73	48	74
b. Owned ^b	15	56	130	111	26	89
4. Land ^c	596	384	268	139	54	175
a. Rented ^d	33	94	27	61	1	-
b. Owned ^e	563	290	241	78	53	175
III. Net return						
1. To own factors ^f	578	361	373	208	95	265
2. To own fixed capital, own labor, and land ^g	611	455	400	269	96	265
3. To labor and land or net value added ^h	761	557	469	323	128	338
4. Net value added per labor day (US\$) ⁱ	7.18	4.42	3.47	1.86	1.83	2.96

^a Gross return includes gross value of rough rice and byproducts.

^b Valued based on prevailing rents and wage task.

^c Estimated as residual (I - II1 - II2 - II3).

^d Cost of rented land is computed by dividing the total land rent paid r by share tenants and fix renters by total sample area.

^e II4b = I - II1 - II2 - II3 - II4a.

^f II1 = I - II1 - II2a - II3a - II4a.

^g II2 = I - II1 - II2a - II3a.

^h II3 = I - II1 - II2.

ⁱ II4 q II3 divided by labor day.

^j - = magnitude zero; ... = data not available.

Table 53. Continued

Madagascar (US\$/ha), 1987.

	Upland	Irrigated
I. Gross return ^a	140	143
II. Total costs		
1. Current inputs	6	4
a. Fertilizer	.j	-
b. Chemicals	-	-
c. Others	6	4
2. Fixed capital	26	8
a. Rented	26	8
b. Owned ^b	-	-
3. Labor	92	116
a. Hired	36	66
b. Owned ^b	56	50
4. Land ^c	16	15
a. Rented ^d	-	-
b. Owned ^e	16	15
III. Net return		
1. To own factors ^f	72	65
2. To own fixed capital, own labor, and land ^g	72	65
3. To labor and land or net value added ^h	109	131
4. Net value added per labor day (US\$) ⁱ	0.61	0.70

^a Gross return includes gross value of rough rice and byproducts.^b Valued based on prevailing rents and wage task.^c Estimated as residual (I - II1 - II2 - II3).^d Cost of rented land is computed by dividing the total land rent paid by share tenants and fix renters by total sample area.^e II4b = I - II1 - II2 - II3 - II4a.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.^j - = magnitude zero.

	Irrigated		Rainfed	
	Village 1	Village 2	Village 3	Village 4
I. Gross return ^a	448	442	308	344
II. Total costs				
1. Current inputs	30	19	13	17
a. Fertilizer	18	... ^j	5	...
b. Chemicals	1	...	1	...
c. Others	11	...	7	...
2. Fixed capital	78	19	48	17
a. Rented	22	- ^j	3	-
b. Owned ^b	56	19	45	17
3. Labor	108	139	93	130
a. Hired	46	103	42	85
b. Owned ^b	61	36	51	45
4. Land ^c	232	265	154	180
a. Rented ^d	55	16	17	16
b. Owned ^e	177	249	137	164
III. Net return				
1. To own factors ^f	295	304	233	226
2. To own fixed capital, own labor, and land ^g	350	320	250	242
3. To labor and land or net value added ^h	340	404	247	310
4. Net value added per labor day (US\$) ⁱ	2.66	2.54	2.16	2.08

^a Gross return includes gross value of rough rice and byproducts.

^b Valued based on prevailing rents and wage task.

^c Estimated as residual (I - II1 - II2 - II3).

^d Cost of rented land is computed by dividing the total land rent paid by share tenants and fix renters by total sample area.

^e II4b = I - II1 - II2 - II3 - II4a.

^f II1 = I - II1 - II2a - II3a - II4a.

^g II2 = I - II1 - II2a - II3a.

^h II3 = I - II1 - II2.

ⁱ II4 = II3 divided by labor day.

^j - = magnitude zero; ... = data not available.

Table 53. Continued

Pakistan (US\$/ha), Kharif, 1988.

	Zone 1	Zone 2
I. Gross return ^a	348	186
II. Total costs		
1. Current inputs	35	20
a. Fertilizer	31	17
b. Chemicals	2	2
c. Others	2	1
2. Fixed capital	115	77
a. Rented	115	77
b. Owned ^b	.. ^j	-
3. Labor	114	88
a. Hired	21	39
b. Owned ^b	93	49
4. Land ^c	83	1
a. Rented ^d	18	... ^j
b. Owned ^e	65	...
III. Net return		
1. To own factors ^f	159	50
2. To own fixed capital, own labor, and land ^g	177	50
3. To labor and land or net value added ^h	198	88
4. Net value added per labor day (US\$) ⁱ	2.91	1.69

^a Gross return includes gross value of rough rice and byproducts.^b Valued based on prevailing rents and wage task.^c Estimated as residual (I - II1 - II2 - II3).^d Cost of rented land is computed by dividing the total land rent paid by share tenants and fix renters by total sample area.^e II4b = I - II1 - II2 - II3 - II4a.^f II1 = I - II1 - II2a - II3a - II4a.^g II2 = I - II1 - II2a - II3a.^h II3 = I - II1 - II2.ⁱ II4 = II3 divided by labor day.^j - = magnitude zero; ... = data not available.

	Irrigated				Rainfed	Upland
	Gravity		Deepwell			
	(1)	(2)	(3)	(4)		
I. Gross return ^a	679	1139	750	902	531	125
II. Total costs						
1. Current inputs	74	130	87	122	75	8
a. Fertilizer	47	72	45	69	38	3
b. Chemicals	8	9	11	10	8	-
c. Others	19	49	31	43	29	5
2. Fixed capital	87	94	131	230	57	36
a. Rented	55	66	111	213	41	9
b. Owned ^b	32	28	20	17	16	27
3. Labor	102	213	74	83	72	71
a. Hired	82	166	55	49	42	30
b. Owned ^b	20	47	19	34	30	41
4. Land ^c	416	702	458	467	327	10
a. Rented ^d	65	87	54	40	130	...
b. Owned ^e	351	615	404	427	197	...
III. Net return						
1. To own factors ^f	403	690	444	478	243	78
2. To own fixed capital, own labor, and land ^g	468	777	497	518	373	78
3. To labor and land or net value added ^h	519	915	532	550	399	81
4. Net value added per labor day (US\$) ⁱ	7.40	12.36	8.08	6.97	5.78	1.12

^a Gross return includes gross value of rough rice and byproducts.

^b Valued based on prevailing rents and wage task.

^c Estimated as residual (I - II1 - II2 - II3).

^d Cost of rented land is computed by dividing the total land rent paid by share tenants and fix renters by total sample area.

^e II4b = I - II1 - II2 - II3 - II4a.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

^j - = magnitude zero; ... = data not available.

Table 53. Continued

Thailand (US\$/ha), 1987-88.

	Irrigated		Rainfed		Deepwater
	Central plain	Central plain	Northeast	Central plain	Central plain
1. Gross return ^a	595	564	195	179	288
II. Total costs					
1. Current inputs	90	100	22	19	58
a. Fertilizer	47	58	14	...	...
b. Chemicals	24	19	1	...	9
c. Others	19	23	6	...	49
2. Fixed capital	55	96	24	24	27
a. Rented	12	36	4	12	8
b. Owned ^b	43	60	20	12	19
3. Labor	136	148	92	63	78
a. Hired	66	57	6	16	35
b. Owned ^b	70	91	86	47	43
4. Land ^c	314	220	57	73	125
a. Rented ^d	132	19	26	62	74
b. Owned ^e	182	201	31	11	51
III. Net return					
1. To own factors ^f	295	352	137	70	113
2. To own fixed capital, own labor, and land ^g	427	371	163	132	187
3. To labor and land or net value added ^h	450	368	149	136	203
4. Net value added per labor day (US\$) ⁱ	7.78	8.78	2.05	3.40	5.49

^a Gross return includes gross value of rough rice and byproducts.^b Valued based on prevailing rents and wage task.^c Estimated as residual (I - II1 - II2 - II3).^d Cost of rented land is computed by dividing the total land rent paid by share tenants and fix renters by total sample area.^e II4b = I - II1 - II2 - II3 - II4a.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.^j - = magnitude zero; ... = data not available.

	Irrigated	Deepwater
1. Gross return ^a	461	3388
II. Total costs		
1. Current inputs	129	18
a. Fertilizer	84	9
b. Chemicals	10	8
c. Others	35	1
2. Fixed capital	103	88
a. Rented	34	19
b. Owned ^b	69	69
3. Labor	78	68
a. Hired	32	31
b. Owned ^b	46	37
4. Land ^c	151	164
a. Rented ^d	19	27
b. Owned ^e	132	133
III. Net return		
1. To own factors ^f	247	243
2. To own fixed capital, own labor, and land ^g	266	270
3. To labor and land or net value added ^h	229	232
4. Net value added per labor day (US\$) ⁱ	2.57	5.95

^a Gross return includes gross value of rough rice and byproducts.

^b Valued based on prevailing rents and wage task.

^c Estimated as residual (I - II1 - II2 - II3).

^d Cost of rented land is computed by dividing the total Land rent paid
r by share tenants and fix renters by total sample area.

^e II4b = I - II1 - II2 - II3 - II4a.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

Table 54. Socio-economic characteristics of rice farming, selected countries, 1987-89.^a

	Paddy Yield (kg/ha)	Ferti- lizer use (kg/ha)	Labor use (labor day/ ha)	% hired labor	Wage rate (US\$/labor day)	Paddy price (US\$/kg)
Irrigated						
Australia	8000	418	...	...	36.27 ^c	0.10
Italy	5870	800	6	100	57.50	0.42
Japan	6510	...	55	2	68.00	1.73
Portugal	5600	850	...	...	...	0.40
USA	6270	...	...	...	...	0.16
Argentina	5000	...	...	...	...	0.88
Burkina Faso	4730	400	978	1	1.33	0.28
Cameroon	1880 ^c	200	25	4	7.00	0.10
Colombia	5610	...	...	...	...	0.22
Costa Rica	4330	370	16	100	4.24 ^c	0.24
Ecuador	3400	330	82	28	2.49	0.20
Egypt	5280	...	...	...	1.96	0.67 ^c
Honduras	6300	247	...	...	3.33	0.27
Indonesia	5760	483	176	73	1.23	0.13
Jamaica	1700	644	87	29	3.00	0.26
Kenya	6100	538	...	...	1.66 ^c	0.21 ^c
Korea Rep	4630	3350	86	23	11.20	1.43
Mauritius	6950	2490	482	87	5.41	0.48
Mexico	5320	637	24	100	6.38	0.18
Nepal	2180	1059	155	100	0.76	0.14
Philippines	2580	...	74	28	1.72 ^c	0.16
Thailand	3780	...	...	...	...	0.14
Togo	3400	450	214	24	1.81	0.24
Turkey	5150	460	50	100	5.12	0.36
Zaire	4000	250	151	100	0.45	0.33
Zambia	5000	500	...	...	0.83	0.28
Rainfed						
Burkina Faso	2500	440	362	-	1.33 ^c	0.29
Colombia	4710	...	...	100	...	0.22
Costa Rica	3710	456	14	100	4.24 ^c	0.24
Ecuador	3210	200	40	55	2.45	0.20
El Salvador	4190	580	109	100	2.48	0.22 ^c
Guatemala	4680	455	9	100	2.56	1.05
Honduras	3800	247	...	...	3.33	0.27
India	2180	238	92	64	1.30	0.14
Indonesia	3570	342	183	75	1.04	0.15
Jamaica	1120	-	228	45	3.89	0.39
Mexico	2050	662	11	100	5.64	0.18
Nepal	1840	1310	153	100	0.76	0.14
Thailand	1840	...	...	100	...	0.15
Zaire	1000	-	395	100	0.41	0.11
Zambia	2500	300	262	59	1.10	0.28

^a Australia data relate to average of 1987 and 1988; Guatemala and Mexico, 1989 data; India, 1987 data.

^b ... = data not available; - = magnitude zero.

^c Data reflects official reports and not derived from the questionnaire.

Source: FAO 1991. A Comparison of the Cost of Producing rice in selected countries. Rome.

Table 55. Measures of costs and returns of rice farming, selected countries, 1987-89 (US\$/ha).^a

	Irrigated								
	Australia	Italy	Japan	Portugal	USA	Argentina	Burkina Faso	Cameroon	Colombia
I. Gross return ^b	800	2,465	11,262	2,240	1,003	4,400	1,324	188	1,234
II. Total costs									
1. Current inputs	176	697	1,661	819	463	1,453	182	447	395
a. Fertilizer	84	169	696	206	87	...	138	78	125
b. Chemicals	57	214	548	227	100	356	24	3	169
c. Others	35	314	417	386	276	1,097	20	366	101
2. Fixed capital	121	867	1,230	707	255	1,399	112	361	33
a. Rented	121	317	454	518	169	1,014	36	104	33
b. Owned ^c	...	550	776	189	86	385	76	257	-
3. Labor	...	346	3,741	124	161	146	1,301	172	65
a. Hired	...	346	68	124	101	89	16	7	65
b. Owned ^c	...	-	3,673	-	60	57	1,285	165	-
4. Land	...	627	2,289	227	152	598	53	2	191
a. Rented ^d	...	120	...	29	30	24	53	2	16
b. Owned ^e	...	507	2,289	198	122	574	-	-	175
III. Net return									
1. To own factors ^f	503	985	9,079	750	240	1,820	1,037	(372)	725
2. To own fixed capital, own labor, and land ^g	503	1,105	9,079	779	270	1,844	1,090	(370)	741
3. To labor and land or net value added ^h	503	901	8,371	714	285	1,548	1,030	(620)	806
4. Net value added per labor day (US\$) ⁱ	...	150.17	152.20	...	...	...	1.05	(24.80)	...

Table 55. Continued

	Irrigated								
	Costa Rica	Ecuador	Egypt	Honduras	Indonesia	Jamaica	Kenya	Korea Rep	Mauritius
I. Gross return ^b	1,039	680	3,538	1,701	749	442	...	6,621	3,336
II. Total costs									
1. Current inputs	283	225	68	379	60	304	172	405	445
a. Fertilizer	86	87	34	81	33	108	146	206	243
b. Chemicals	116	107	5	75	20	50	13	139	92
c. Others	81	31	29	223	7	146	13	60	110
2. Fixed capital	387	416	15	105	33	180	-	1,340	95
a. Rented	281	252	15	105	33	160	-	850	68
b. Owned ^c	106	164	...	...	-	20	-	490	27
3. Labor	66	205	178	100	217	261	-	959	2,606
a. Hired	66	147	178	100	157	75	...	224	2,273
b. Owned ^c	-	58	...	...	60	186	...	735	333
4. Land	79	268	-	-	162	37	-	1,492	67
a. Rented ^d	31	46	...	-	9	-	-	27	-
b. Owned ^e	48	222	...	...	153	37	...	1,465	67
III. Net return									
1. To own factors ^f	378	10	3,277	1,117	490	(97)	(172)	5,115	550
2. To own fixed capital, own labor, and land ^g	409	56	3,277	1,117	499	(97)	(172)	5,142	550
3. To labor and land or net value added ^h	369	39	3,455	1,217	656	(42)	(172)	4,876	2,796
4. Net value added per labor day (US\$) ⁱ	23.06	0.48	...	...	3.73	(0.48)	...	56.70	5.80

Irrigated								
	Mexico	Nepal	Philippines	Thailand	Togo	Turkey	Zaire	Zambia
I. Gross return ^b	958	305	413	529	816	1,854	1,320	1,400
II. Total costs								
1. Current inputs	258	30	48	82	178	407	182	156
a. Fertilizer	89	19	19	56	96	60	81	105
b. Chemicals	32	1	11	15	24	139	1	-
c. Others	137	10	18	11	58	208	100	51
2. Fixed capital	77	45	29	112	107	53	1,722	5,066
a. Rented	38	43	7	43	107	53	-	-
b. Owned ^c	39	2	22	69	-	-	1,722	5,066
3. Labor	153	118	128	111	387	256	68	83
a. Hired	153	118	36	41	94	256	68	83
b. Owned ^c	-	-	92	70	293	-	-	...
4. Land	53	2	94	36	-	504	-	-
a. Rented ^d	53	2	2	5	-	-	-	-
b. Owned ^e	-	-	92	31	-	504	-	...
III. Net return								
1. To own factors ^f	456	112	320	358	437	1,138	1,070	1,161
2. To own fixed capital, own labor, and land ^g	509	114	322	363	437	1,138	1,070	1,161
3. To labor and land or net value added ^h	623	230	336	335	531	1,394	(584)	(3,822)
4. Net value added per labor day (US\$) ⁱ	25.96	1.48	4.54	...	2.48	27.88	(3.87)	...

Table 55. Continued

	Rainfed							
	Burkina Faso	Colom- bia	Costa Rica	Ecu- dor	El Sal- vador	Guate- mala	Hondur- as	India
I. Gross return ^b	725	1,036	890	642	922	4,914	1,026	305
II. Total costs								
1. Current inputs	197	321	369	167	295	448	224	106
a. Fertilizer	139	90	97	57	109	130	81	81
b. Chemicals	38	145	169	73	125	189	75	13
c. Others	20	86	103	37	61	129	68	12
2. Fixed capital	-	26	423	332	25	207	147	305
a. Rented	-	26	281	201	12	207	124	265
b. Owned ^c	-	-	142	131	13	-	23	40
3. Labor	481	68	59	97	271	23	40	120
a. Hired	-	68	59	54	271	23	40	83
b. Owned ^c	481	-	-	43	-	-	...	37
4. Land	50	71	66	223	43	74	-	171
a. Rented ^d	50	13	35	27	-	-	-	-
b. Owned ^e	-	58	31	196	43	74	...	171
III. Net return								
1. To own factors ^f	478	608	146	193	344	4,236	638	(149)
2. To own fixed capital, own labor, and land ^g	528	621	181	220	344	4,236	638	(149)
3. To labor and land or net value added ^h	528	689	98	143	602	4,259	655	(106)
4. Net value added per labor day (US\$) ⁱ	1.46	...	7.00	3.58	5.52	473.22	...	(1.15)

	Rainfed						
	Indonesia	Jamaica	Mexico	Nepal	Thailand	Zaire	Zambia
I. Gross return ^b	536	437	369	258	276	110	700
II. Total costs							
1. Current inputs	68	68	603	25	14	7	205
a. Fertilizer	30	-	100	15	10	-	110
b. Chemicals	31	-	370	-	2	-	20
c. Others	7	68	133	10	2	7	75
2. Fixed capital	30	-	161	43	19	18	48
a. Rented	30	-	50	41	19	-	32
b. Owned ^c	-	-	111	2	-	18	16
3. Labor	190	887	62	116	26	162	288
a. Hired	142	490	62	116	26	162	169
b. Owned ^c	48	397	-	-	-	-	119
4. Land	84	74	52	2	2	-	-
a. Rented ^d	-	-	52	2	2	-	...
b. Owned ^e	84	74	-	-	-	...	...
III. Net return							
1. To own factors ^f	296	(121)	(398)	74	215	(59)	294
2. To own fixed capital, own labor, and land ^g	296	(121)	(346)	76	217	(59)	294
3. To labor and land or net value added ^h	438	369	(395)	190	243	85	447
4. Net value added per labor day (US\$) ⁱ	2.39	1.62	(35.91)	1.24	...	0.22	1.71

^a - = magnitude zero; ... = data not available. Data in parentheses indicate negative values.

^b Gross return includes gross value of rough rice excluding byproducts.

^c Valued based on prevailing rents and wage by task.

^d Land rent paid by share tenants and fix renters per hectare and/or land tax.

^e Based on prevailing rental rates.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

Source of basic data: Yap, C.L. 1991. A comparison of the cost of producing rice in selected countries. FAO, Rome.

Table 56. Socioeconomic characteristics of rice farming, selected countries, 1991-93.

Bangladesh, 1993.

	Irrigated	Rainfed	
	Modern	Modern	Traditional
Rice yield (kg/ha)	4560	3370	1840
Fertilizer use (kg/ha)			
Manure	5300	2000	2000
Dap	- ^a	-	-
Urea	185	123	75
TSP	125	61	15
MP	50	40	-
Labor use (labor days/ha)	170	145	135
% hired labor	45	55	45
Wage rate (US\$/day)	1	1	1
Paddy price (US\$/kg)	0.14	0.12	0.12
Urea price (US\$/kg N)	0.27	0.27	0.27

^a - = magnitude zero.

Source: Bangladesh Rice Research Institute. Agriculture Economics Division.

Cambodia, 1993.

	Irrigated	Rainfed
	Modern	Traditional
Rice yield (kg/ha)	2500	1500
Fertilizer use (kg/ha)		
Manure	3000	1000
Dap	100	
Urea	50	40
TSP	- ^a	40
16-20-0	100	-
Labor use (labor days/ha)	150	180
% hired labor	27	33
Wage rate (US\$/ day)	1.20	1.20
Paddy price (US\$/kg)	0.12	0.10
Urea price (US\$/kg N)	0.52	0.61

^a - = magnitude zero.

Source: Cambodia-IRRI-Australia Project, Phnom Penh.

	Early indica	Middle indica	Late indica	Japonica	Hybrid rice
Rice yield (kg/ha)	5341	6491	5572	6583	6945
Fertilizer use (kg/ha)					
Manure	... ^b	...	...	...	...
DAP	...	...	...	...	...
Urea	...	...	...	...	...
TSP	...	...	...	...	...
Chemical fertilizers	453	368	475	474	951
Labor use (labor days/ha)	289	311	279	313	356
% hired labor	...	...	...	...	...
Wage rate (US\$/day)	0.55	0.55	0.55	0.55	0.55
Paddy price (US\$/kg)	0.10	0.09	0.10	0.13	0.09
Urea price (US\$/kg N)	...	...	...	...	...

^aHybrid rice data relate to 1990.

Source: China National Rice Research Institute and State Price Bureau.

^b ... = data not available.

Selected states, India.

	Andra Pradesh (1983-84)	Assam (1986-87)	Bihar (1983-84)	Haryana (1987-88)	Karna- taka (1986-87)	Madhya Pradesh (1986-87)	Orissa (1986-87)	Punjab (1987-88)	Tamil Nadu (1981-82)	Uttar Pradesh (1983-84)	West Bengal (1984-85)
Rice yield (kg/ha)	3392	1645	1863	3796	3660	1336	1977	5210	3917	2309	2715
Fertilizer use (kg/ha)											
Manure	7967	939	666	32	7401	1918	2874	4313	3341	2237	2698
Inorganic ^a	139	498	29	138	77	31	37	195	149	48	29
Labor use (labor days/ha)	161	77	108	94	107	72	129	101	153	110	148
% hired labor	84	30	53	48	70	59	65	69	85	41	58
Wage rate (US\$/day)	0.81	1.11	0.63	1.26	0.84	0.67	0.67	1.15	0.98	0.78	0.85
Paddy price (US\$/kg)	0.14	0.11	0.17	0.15	0.15	0.16	0.12	0.14	0.15	0.13	0.13

^aExpressed in fertilizer nutrients.Source: Directorate of Economics and Statistics. 1991. Cost of cultivation of principal crops in India.
Ministry of Agriculture, New Delhi.

Table 56. Continued

Japan, 1993.

	All farms
Rice yield (kg/ha)	5938
Fertilizer use (kg/ha)	...
Manure	...
DAP	...
Urea	...
TSP	...
MP	...
Labor use (labor days/ha)	58
% Hired Labor	1
Wage rate (US\$/day)	91.04
Paddy price (US\$/kg)	2.49
Urea price (US\$/kg N)	...

^a ... data not available.

Source: Ministry of Agriculture, Forestry and Fisheries. Government of Japan.

Philippines, 1991.

	Irrigated	Rainfed	Upland
Rice yield (kg/ha)	3251	2243	1269
Fertilizer use (kg/ha)			
Manure	1	2	1
Dap	...	...	...
Urea	98	42	11
TSP	...	...	...
MP	...	...	...
20-0-0	16	14	22
16-20-0	22	15	6
Complete	54	32	11
Others	4	2	1
Labor use (labor days/ha)	68	60	34
% hired labor	67	51	38
Wage rate (US\$/day)	2.28	1.98	1.95
Paddy price (US\$/kg)	0.15	0.15	0.15
Urea price (US\$/kg N)	0.41	0.41	0.41

^a ... = data not available.

Source: Bureau of Agricultural Statistics, Quezon City, Philippines.

	Irrigated		Rainfed
	Modern	Traditional	Traditional
Rice yield (kg/ha)	4900	2600	1700
Fertilizer use (kg/ha)			
Manure	.. ^a	-	-
Dap	-	-	-
Urea	50	-	-
TSP	-	-	-
Others	-	-	-
Labor use (labor days/ha)	163	149	83
% hired labor	88	74	78
Wage rate (US\$/day)	0.78	0.78	0.52
Paddy price (US\$/kg N)	0.22	0.22	0.24
Urea price (US\$/kg N)	-	0.98	-

^a.. = magnitude zero.

Source: Madagascar-IRRI Rice Project, Antananarivo.

Thailand, 1992-93.^a

	Wet Season	Dry Season
Paddy yield (kg/ha)	1920	4000
Fertilizer use (kg/ha)	...	...
Manure	...	...
DAP	...	...
Urea	...	...
TSP	...	...
16-20-0	...	...
Labor use (labor days/ha)	67	105
% hired labor	72	58
Wage rate (US\$/day)	2.51	2.51
Paddy price (US\$/kg)	0.15	0.15
Urea price (US\$/kg)	0.39	0.40

^a Wage rate, paddy price, and urea price are from official reports and not derived from the questionnaire.

^b... = data not available.

Table 56. Continued

Vietnam, 1992.

	All farms
Rice yield (kg/ha)	3340
Fertilizer use (kg/ha)	
Manure	2758
DAP	... ^a
Urea	...
TSP	...
16-20-0	...
Chemical fertilizer	210
Labor use (labor days/ha)	48
% hired labor	58
Wage rate (US\$/day)	0.77
Paddy price (US\$/kg)	0.09
Urea price (US\$/kg N)	0.38

^a ... = data not available.

Source: Planning Department, Ministry of Agriculture and Food Industries, Hanoi.

Table 57. Measures of costs and returns of rice farming, selected countries, 1991-93.

Bangladesh, (US\$/ha), 1993.^a

	Irrigated	Rainfed	
	Modern	Modern	Traditional
1. Gross return ^b	627	421	213
II. Total costs			
1. Current inputs	112	68	45
a. Fertilizer	76	43	19
b. Chemicals	17	9	3
c. Others	19	16	23
2. Fixed capital	170	61	57
a. Rented	117	8	14
b. Owned ^c	53	53	42
3. Labor	236	202	187
a. Hired	106	90	84
b. Owned ^c	131	111	103
4. Land	436	336	210
a. Rented ^d	123	125	103
b. Owned ^e	313	210	106
III. Net return			
1. To own factors ^f	169	128	-33
2. To own fixed capital, own labor, and land ^g	292	254	70
3. To labor and land or net value added ^h	344	291	112
4. Net value added per labor day (US\$) ⁱ	2.02	2.01	0.83

^a - = magnitude zero; ... = data not available.^b Gross return includes gross value of rough rice excluding by-products.^c Valued based on prevailing rents and wage by task.^d Land rent paid by share tenants and fix renters per hectare and/or land tax.^e Based on prevailing rental rates.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.

Source of basic data: Bangladesh Rice Research Institute. Agricultural Economics Division.

Table 57. Continued

Cambodia (US\$/ha), 1993.^a

	Irrigated	Rainfed
	Modern	Traditional
I. Gross return ^b	300	150
II. Total costs		
1. Current inputs	81	41
a. Fertilizer	59	30
b. Chemicals	7	-
c. Others	15	11
2. Fixed capital	36	24
a. Rented	36	24
b. Owned ^c	-	-
3. Labor	180	216
a. Hired	48	72
b. Owned ^c	132	144
4. Land	300	75
a. Rented ^d	-	-
b. Owned ^e	300	75
III. Net return		
1. To own factors ^f	135	13
2. To own fixed capital, own labor, and land ^g	135	13
3. To labor and land or net value added ^h	183	85
4. Net value added per labor day (US\$) ⁱ	1.22	0.47

^a - = magnitude zero; ... = data not available.^b Gross return includes gross value of rough rice excluding by-products.^c Valued based on prevailing rents and wage by task.^d Land rent paid by share tenants and fix renters per hectare and/or land tax.^e Based on prevailing rental rates.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.

Source of basic data: Cambodia-IRRI-Australia Project. Phnom Penh.

	Early- Indica	Middle- Indica	Late- Indica	Japonica	Hybrid Rice
I. Gross return ^b	518	597	568	893	669
II. Total costs					
1. Current inputs	169	144	164	207	187
a. Fertilizer	119	96	112	119	124
b. Chemicals	16	17	24	26	25
c. Others	34	31	28	62	38
2. Fixed capital	89	85	88	136	103
a. Rented	75	59	70	111	74
b. Owned ^c	14	26	19	26	28
3. Labor	158	170	152	171	194
a. Hired	...	...	...	...	...
b. Owned ^c	...	...	...	...	...
4. Land	...	...	...	...	...
a. Rented ^d	20	15	21	20	16
b. Owned ^e	...	...	...	...	...
III. Net return					
1. To own factors ^f	...	...	...	...	...
2. To own fixed capital, own labor, and land ^g	...	...	...	...	...
3. To labor and land or net value added ^h	260	368	317	551	380
4. Net value added per labor day (US\$) ⁱ	0.90	1.18	1.14	1.76	1.07

^a - = magnitude zero; ... = data not available.

^b Gross return includes gross value of rough rice excluding by-products.

^c Valued based on prevailing rents and wage by task.

^d Land rent paid by share tenants and fix renters per hectare and/or land tax.

^e Based on prevailing rental rates.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

Data for hybrid rice relate to 1990. Due to insignificant labor and land markets, returns to land and labor cannot be separated.

Source of basic data: China National Rice Research Institute and the State Price Bureau.

Table 57. Continued

Selected states, India (US\$/ha).^a

	Andhra Pradesh (1983-84)	Assam (1986-87)	Bihar (1983-84)	Haryana (1987-88)	Karnataka (1986-87)	Madhya Pradesh (1986-87)	Orissa (1986-87)	Punjab (1987-88)	Tamil Nadu (1981-82)	Uttar Pradesh (1983-84)	West Bengal (1984-85)
I. Gross return ^b	458	189	321	588	538	209	233	708	586	303	367
II. Total costs											
1. Current inputs	116	16	27	63	74	35	45	102	126	45	41
a. Fertilizer	89	2	15	47	54	21	31	78	92	28	26
b. Chemicals	12	0.0	-	8	5	0.1	1	13	8	-	2
c. Others	15	14	12	8	15	13	14	11	26	17	13
2. Fixed capital	68	39	41	108	43	41	33	127	89	54	56
a. Rented	34	1	5	68	6	5	3	86	54	10	8
b. Owned ^c	34	38	36	39	37	36	30	41	35	44	48
3. Labor	131	85	68	118	90	48	87	116	150	86	125
a. Hired	110	26	36	57	63	29	56	80	127	36	73
b. Owned ^c	21	60	33	62	27	20	31	36	23	51	53
4. Land	154	47	112	92	121	61	71	192	164	74	114
a. Rented ^d	5	5	3	3	1	-	4	27	26	4	3
b. Owned ^e	149	42	109	89	121	61	67	165	138	69	111
III. Net return											
1. To own factors ^f	193	142	250	397	395	141	125	413	252	208	243
2. To own fixed capital, own labor, and land ^g	199	147	253	400	395	141	129	440	278	212	245
3. To labor and land or net value added ^h	274	135	253	417	421	133	155	480	371	204	270
4. Net value added per labor day (US\$) ⁱ	1.70	1.75	2.34	4.44	3.94	1.85	1.20	4.75	2.42	1.86	1.82

^a - = magnitude zero; ... = data not available.^b Gross return includes gross value of rough rice excluding by-products.^c Valued based on prevailing rents and wage by task.^d Land rent paid by share tenants and fix renters per hectare and/or land tax.^e Based on prevailing rental rates.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - III - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.

Source of basic data: Directorate of Economics and Statistics. 1991. Cost of Cultivation of Principal Crops in India. Ministry of Agriculture, New Delhi.

	All farms
I. Gross return ^b	14,761
II. Total costs	
1. Current inputs	2,345
a. Fertilizer	799
b. Chemicals	710
c. Others	836
2. Fixed capital	5,141
a. Rented	2,106
b. Owned ^c	3,036
3. Labor	5,285
a. Hired	63
b. Owned ^c	5,222
4. Land	2,527
a. Rented ^d	452
b. Owned ^e	2,075
III. Net return	
1. To own factors ^f	9,796
2. To own fixed capital, own labor, and land ^g	10,248
3. To labor and land or net value added ^h	4,479
4. Net value added per labor day (US\$) ⁱ	77.22

^a - = magnitude zero; ... = data not available.

^b Gross return includes gross value of rough rice excluding by-products.

^c Valued based on prevailing rents and wage by task.

^d Land rent paid by share tenants and fix renters per hectare and/or land tax.

^e Eased on prevailing rental rates.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

Source of basic data: Ministry of Agriculture, Forestry & Fisheries.
Government of Japan.

Table 57. Continued

Madagascar (northwestern coast), (US\$/ha), 1993. ^a

	Irrigated		Rainfed
	Modern	Traditional	Traditional
I. Gross return ^b	1,088	577	378
II. Total costs			
1. Current inputs	28	10	8
a. Fertilizer	23	-	-
b. Chemicals	-	-	-
c. Others	6	10	8
2. Fixed capital	52	5	13
a. Rented	52	5	13
b. Owned ^c	-	-	-
3. Labor	128	117	48
a. Hired	112	87	34
b. Owned ^c	16	30	14
4. Land	131	131	65
a. Rented ^d	-	-	...
b. Owned ^e	131	131	65
III. Net return			
1. To own factors ^f	895	475	322
2. To own fixed capital, own labor, and land ^g	895	475	322
3. To labor and land or net value added ^h	1,007	562	356
4. Net value added per labor day (US\$) ⁱ	6.18	3.77	4.29

^a - = magnitude zero; ... = data not available.^b Gross return includes gross value of rough rice excluding by-products.^c Valued based on prevailing rents and wage by task.^d Land rent paid by share tenants and fix renters per hectare and/or land tax.^e Based on prevailing rental rates.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.

Source of basic data: Madagascar-IRRI Rice Project, Antananarivo.

	Irrigated	Rainfed	Upland
1. Gross return ^b	491	339	192
II. Total costs			
1. Current inputs	105	67	29
a. Fertilizer	45	25	10
b. Chemicals	21	13	5
c. Others	39	29	13
2. Fixed capital	36	21	12
a. Rented	12	2	1
b. Owned ^c	24	19	11
3. Labor	155	119	66
a. Hired	122	87	41
b. Owned ^c	33	32	26
4. Land	85	61	25
a. Rented ^d	60	44	17
b. Owned ^c	25	18	8
III. Net return			
1. To own factors ^f	191	139	105
2. To own fixed capital, own labor, and land ^g	252	183	122
3. To labor and land or net value added ^h	349	251	151
4. Net value added per labor day (US\$) ⁱ	5.10	4.20	4.51

^a - = magnitude zero; ... = data not available.

^b Gross return includes gross value of rough rice excluding by-products.

^c Valued based on prevailing rents and wage by task.

^d Land rent paid by share tenants and fix renters per hectare and/or land tax.

^e Based on prevailing rental rates.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - II1 - II2.

ⁱ III4 = III3 divided by labor day.

Source of basic data: Bureau of Agricultural Statistics, Quezon City, Philippines.

Table 57. Continued

Thailand (US\$/ha), 1992-93.^a

	Wet season	Dry season
I. Gross return ^b	281	585
II. Total costs		
1. Current inputs	22	262
a. Fertilizer	11	60
b. Chemicals	2	173
c. Others	9	30
2. Fixed capital	4	6
a. Rented	1	2
b. Owned ^c	3	4
3. Labor	169	250
a. Hired	48	97
b. Owned ^c	121	153
4. Land	41	39
a. Rented ^d	3	5
b. Owned ^e	38	34
III. Net return		
1. To own factors ^f	207	220
2. To own fixed capital, own labor, and land ^g	210	225
3. To labor and land or net value added ^h	255	318
4. Net value added per labor day (US\$) ⁱ	3.81	3.03

^a - = magnitude zero; ... = data not available.^b Gross return includes gross value of rough rice excluding by-products.^c Valued based on prevailing rents and wage by task.^d Land rent paid by share tenants and fix renters per hectare and/or land tax.^e Based on prevailing rental rates.^f III1 = I - II1 - II2a - II3a - II4a.^g III2 = I - II1 - II2a - II3a.^h III3 = I - II1 - II2.ⁱ III4 = III3 divided by labor day.

Source of basic data: Centre for Agricultural Statistics. Ministry of Agriculture and Cooperatives, Bangkok.

	All farms
1. Gross return ^b	298
II. Total costs	
1. Current inputs	89
a. Fertilizer	46
b. Chemicals	21
c. Others	22
2. Fixed capital	82
a. Rented	68
b. Owned ^c	14
3. Labor	41
a. Hired	15
b. Owned ^c	26
4. Land	72
a. Rented ^d	16
b. Owned ^e	56
III. Net return	
1. To own factors ^f	110
2. To own fixed capital, own labor, and land ^g	125
3. To labor and land or net value added ^h	126
4. Net value added per labor day (US\$) ⁱ	2.62

^a - = magnitude zero; ... = data not available.

^b Gross return includes gross value of rough rice excluding by-products.

^c Valued based on prevailing rents and wage by task.

^d Land rent paid by share tenants and fix renters per hectare and/or land tax.

^e Based on prevailing rental rates.

^f III1 = I - II1 - II2a - II3a - II4a.

^g III2 = I - II1 - II2a - II3a.

^h III3 = I - III - II2.

ⁱ III4 = III3 divided by labor day.

Source of basic data: Planning Department, Ministry of Agriculture and Food Industries, Hanoi.

Appendix tables

Appendix Table 1. Wholesale price index, selected countries, 1961-93 (1985=100).

YEAR	Bang-ladesh	India	Indo-nesia ^a	Iran	Iraq	Japan	Korea Rep	Malay-sia ^a	Myan-mar ^a	Nepal	Pakis-tan	Philip-pines	Sri Lanka	Taiwan China	Thailand
1961	8.3	15.7	... ^b	14.3	63.0	43.2	5.1	...	33.0	16.5	15.2	4.6	16.7	31.6	27.6
1962	8.4	16.3	...	14.5	61.5	42.5	5.6	...	31.5	16.5	15.5	4.8	17.2	32.5	29.3
1963	8.4	16.9	...	14.5	66.4	43.3	6.8	...	29.9	17.8	15.6	5.3	17.0	34.6	27.5
1964	8.0	18.6	...	15.3	67.7	43.3	9.0	...	29.2	21.3	17.0	5.5	16.9	35.5	25.8
1965	8.8	20.2	0.1	15.8	65.6	43.7	10.0	...	29.5	24.0	17.0	5.6	17.1	33.9	26.7
1966	9.6	22.5	1.2	15.6	65.3	44.7	10.8	...	30.4	26.3	17.0	5.9	16.8	34.4	30.4
1967	11.1	26.0	3.1	15.6	70.1	45.5	11.5	...	34.2	24.8	19.6	6.0	17.2	34.3	32.7
1968	10.2	25.8	6.9	15.7	66.8	45.9	12.5	...	37.6	27.5	19.5	6.2	19.5	36.3	31.1
1969	11.1	26.4	8.4	16.2	68.6	46.9	13.3	46.1	36.0	29.4	20.5	6.3	19.7	36.2	32.2
1970	11.4	28.0	9.6	16.6	75.2	48.6	14.6	44.6	36.2	31.4	20.7	7.8	19.8	37.2	32.1
1971	11.4	29.4	9.9	17.7	80.0	48.2	15.8	44.4	36.5	32.4	21.8	9.0	20.4	37.2	32.1
1972	18.9	32.0	11.3	18.7	76.9	48.6	18.0	44.5	40.1	36.5	24.1	9.9	20.5	38.8	34.7
1973	27.5	37.3	15.0	20.8	80.5	56.3	19.3	52.6	49.0	35.2	30.6	12.2	23.9	47.6	42.6
1974	44.2	47.9	22.1	24.3	90.6	74.1	27.4	59.2	62.9	42.5	37.4	18.1	26.5	67.0	54.9
1975	48.4	49.8	24.8	26.2	100.0	76.3	34.6	57.4	73.3	54.3	46.0	19.1	27.4	63.6	57.0
1976	34.7	48.8	28.4	28.6	111.2	80.1	38.8	64.7	80.6	54.5	49.6	21.7	29.6	65.4	59.2
1977	40.9	52.5	32.1	33.5	118.6	81.6	42.3	69.1	82.2	52.6	54.3	23.3	35.9	67.2	63.8
1978	43.8	52.4	35.6	36.9	125.0	79.5	47.2	76.0	82.8	57.5	57.6	24.4	41.6	69.6	68.6
1979	51.1	58.4	47.2	42.1	...	85.3	56.1	85.2	87.5	63.3	63.1	29.1	45.5	79.2	76.3
1980	57.4	70.2	61.0	55.3	...	100.5	77.9	91.1	88.6	68.1	71.6	34.4	60.9	96.2	91.6
1981	61.9	78.8	67.8	68.2	...	101.9	93.8	92.0	92.5	73.5	79.4	39.3	71.2	103.6	100.3
1982	69.7	80.8	72.8	76.9	...	103.7	98.2	94.4	95.6	80.8	82.7	43.7	75.1	103.4	101.2
1983	73.6	87.1	85.8	88.2	...	101.4	98.4	86.2	97.0	88.4	88.9	50.6	93.9	102.1	103.2
1984	85.6	94.5	95.3	95.0	...	101.1	99.1	101.5	98.8	96.0	97.2	84.6	117.9	102.6	100.0
1985	100.0	100.0	100.0	100.0	...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	106.0	105.6	102.2	119.0	...	90.9	98.5	90.6	103.9	112.5	104.9	98.4	97.0	96.6	99.6
1987	115.8	112.9	121.9	157.4	...	87.5	99.0	97.6	105.0	124.2	113.6	107.4	110.0	93.5	105.5
1988	124.8	122.7	127.9	192.3	...	86.6	101.7	101.3	107.3	135.1	124.7	121.8	129.6	92.0	114.1
1989	128.6	131.1	138.8	231.5	...	88.8	103.2	108.4	255.0	143.8	135.2	134.7	141.3	91.7	119.4
1990	139.4	142.9	152.8	279.1	...	90.6	107.5	109.4	302.3	156.0	146.8	148.4	172.7	91.1	123.5
1991	146.5	162.2	160.7	356.9	...	90.8	113.3	113.8	358.9	170.4	164.4	168.4	188.5	91.3	131.9
1992	154.3	181.4	169.0	464.7	...	89.5	115.7	115.1	418.6	202.7	176.4	176.0	205.0	87.9	132.3
1993	156.9	...	175.6	...	...	...	116.8	116.7	424.7	226.3	185.9	174.1	220.6	90.2	131.7

^aFor Indonesia, 1965-80; Malaysia, 1989-93; Myanmar, 1961-93; data relate to implicit GDP deflator.^b... = data not available.

Sources: IMF international financial statistics. Washington, D.C. (various issues).

ADB. Key indicators of developing member countries of ADB. Manila. (various issues).

Taiwan Council for Economic Planning and Development. Taiwan

Statistical data book. Taipei (various issues).

Appendix Table 2. Consumer price index, selected countries, 1961-93 (1985=100).

YEAR	Bang- ladesh	India	Indo- nesia	Iran	Iraq	Japan	Korea Rep	Malay- sia	Myan- mar	Nepal	Pakis- tan	Philip- pines	Sri Lanka	Taiwan, China	Thai- land
1961	6.6	16.7	...	12.7	59.6	22.3	4.7	41.0	21.8	...	16.2	6.7	18.7	23.7	26.7
1962	6.8	17.3	...	12.7	60.4	23.7	5.0	41.0	21.5	...	16.1	7.1	18.9	24.3	27.6
1963	6.9	17.8	...	12.8	62.8	25.6	6.0	42.2	21.0	...	16.0	7.4	19.4	24.8	27.6
1964	7.2	20.2	0.1	13.3	62.7	26.5	7.7	42.1	20.9	...	16.6	8.1	20.0	24.8	27.4
1965	7.8	22.1	0.2	13.6	62.4	28.4	8.7	42.1	24.6	...	17.5	8.3	20.0	24.8	27.5
1966	8.4	24.5	2.1	13.5	63.7	29.8	9.9	42.5	30.8	...	18.4	8.7	20.0	25.2	28.6
1967	8.9	27.8	4.2	13.7	65.7	30.9	10.9	44.4	31.0	...	20.5	9.3	20.5	26.1	29.8
1968	9.1	28.6	9.5	13.8	67.2	32.5	12.1	44.3	31.8	...	20.6	9.5	21.7	28.1	30.4
1969	9.5	29.1	11.2	14.3	71.0	34.3	13.5	44.1	30.4	...	20.8	9.7	23.3	29.5	31.1
1970	9.8	30.6	12.6	14.6	74.1	36.9	15.7	44.9	29.2	...	21.7	11.0	24.6	30.6	31.1
1971	9.8	31.6	13.1	15.2	76.8	39.2	17.9	45.7	29.8	...	23.4	12.7	25.3	31.5	31.2
1972	14.2	33.2	14.0	16.1	80.8	40.9	19.9	47.2	32.1	32.1	24.7	14.0	26.9	32.4	32.7
1973	20.6	39.1	18.3	17.7	84.7	45.7	20.6	52.1	40.2	37.9	30.3	15.9	29.5	35.1	37.8
1974	31.9	50.0	25.7	20.3	91.3	56.9	25.6	61.2	50.3	44.2	38.4	21.3	33.1	51.7	47.0
1975	38.9	52.8	30.6	22.9	100.0	63.6	32.1	63.9	66.2	43.9	46.4	23.0	35.3	54.5	49.5
1976	38.5	48.7	36.7	25.4	112.8	69.5	37.0	65.6	81.0	45.8	49.8	24.4	35.8	55.8	51.5
1977	41.7	52.8	40.7	32.4	123.1	75.1	40.7	68.7	80.1	49.0	54.8	26.4	36.2	59.7	55.4
1978	43.9	54.1	44.1	36.2	128.8	78.0	46.6	72.1	75.3	52.1	58.1	28.4	40.6	63.2	59.8
1979	50.4	57.5	53.1	40.0	...	80.8	55.1	74.7	79.5	55.4	62.9	33.3	45.0	69.3	65.7
1980	57.1	64.1	62.9	48.2	...	87.3	70.9	79.7	80.0	64.5	70.5	39.4	56.7	82.5	78.7
1981	66.4	72.5	70.6	59.9	...	91.5	86.0	87.4	80.2	71.7	78.9	44.6	66.9	96.0	88.7
1982	74.7	78.2	77.3	71.1	...	94.1	92.3	92.5	84.5	80.1	83.5	49.1	74.1	98.8	93.3
1983	81.7	87.5	86.4	85.1	...	95.8	95.4	95.9	89.3	90.0	89.3	54.0	84.5	100.2	96.8
1984	90.3	94.7	95.5	95.8	...	98.0	97.6	99.7	93.6	92.5	94.7	81.2	98.6	100.2	97.6
1985	100.0	100.0	100.0	100.0	...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	111.0	108.7	105.9	118.4	...	100.6	102.8	100.7	109.3	119.0	103.5	100.8	108.0	107.0	101.8
1987	121.6	118.3	115.6	152.3	...	100.7	105.9	101.0	136.4	131.8	108.4	104.6	116.3	116.4	104.4
1988	133.0	129.4	124.9	195.9	...	101.4	113.5	103.6	158.3	143.6	117.9	113.7	132.6	140.5	108.4
1989	146.3	137.4	133.0	239.7	...	103.7	119.9	106.5	201.2	156.3	127.2	127.6	147.9	163.4	114.2
1990	158.1	149.7	142.9	258.0	...	106.9	130.2	109.3	236.8	169.2	138.7	145.7	179.7	165.5	121.0
1991	169.5	170.5	156.1	302.2	...	110.4	142.8	114.1	313.2	195.5	155.0	172.9	201.6	155.5	127.9
1992	176.8	190.5	167.8	371.5	...	112.3	151.7	119.5	381.9	229.1	169.8	188.3	224.6	120.7	133.1
1993	187.0	199.8	181.6	...	...	...	158.5	124.7	493.1	245.8	181.6	199.1	251.0	124.1	137.6

^a ... = data not available.

Sources: IMF international financial statistics, Washington, D.C. (various issues).

ADB. Key indicators of developing Asian and Pacific countries. Vol. XXI, July 1990.
Economic and Development Center. Asian Development Bank.

Taiwan Council for Economic Planning and Development. Taiwan statistical data
book. Taipei (various issues).

Appendix Table 3. Official exchange rates (domestic currency/US\$), selected countries, 1961-93.^a

YEAR	Bang- ladesh (taka)	China PR (yuan)	Taiwan, China (NT\$)	India (rupee)	Indo- nesia (rupiah)	Iran (rial)	Iraq (dinar)	Japan (yen)
1961	4.78	2.46	40.03	4.78	... ^b	75.75	0.36	361.15
1962	4.77	2.46	40.03	4.77	...	75.75	0.36	360.82
1963	4.79	2.46	40.05	4.78	...	75.75	0.36	361.48
1964	4.80	2.46	40.05	4.79	...	75.75	0.36	361.97
1965	4.80	2.46	40.05	4.79	...	75.75	0.36	361.49
1966	4.80	2.46	40.05	6.41	85.00	75.75	0.36	362.35
1967	4.80	2.46	40.05	7.56	153.67	75.75	0.36	362.15
1968	4.80	2.46	40.05	7.59	300.08	75.75	0.36	360.55
1969	4.80	2.46	40.05	7.58	326.00	75.75	0.36	358.37
1970	4.80	2.46	40.05	7.57	365.00	75.75	0.36	358.07
1971	7.76	2.44	40.05	7.52	391.88	75.75	0.35	347.86
1972	7.59	2.27	40.03	7.59	415.00	75.75	0.33	303.17
1973	7.74	2.06	38.26	7.74	415.00	68.88	0.30	271.70
1974	8.11	1.96	38.00	8.10	415.00	67.62	0.30	292.08
1975	12.02	1.86	38.00	8.38	415.00	67.64	0.30	296.79
1976	15.35	1.94	38.00	8.96	415.00	70.22	0.30	296.55
1977	15.38	1.86	38.00	8.74	415.00	70.62	0.30	268.51
1978	15.02	1.68	37.05	8.19	442.00	70.48	0.30	210.44
1979	15.55	1.56	36.05	8.13	623.10	70.48	0.30	219.14
1980	15.45	1.50	36.02	7.86	627.00	70.62	0.30	226.74
1981	17.99	1.70	36.85	8.66	631.80	78.33	0.30	220.54
1982	22.12	1.89	39.12	9.46	661.40	83.60	0.30	249.08
1983	24.62	1.98	40.06	10.10	909.30	86.36	0.31	237.51
1984	25.35	2.32	39.60	11.36	1025.90	90.03	0.31	237.52
1985	28.00	2.94	39.85	12.37	1110.60	91.05	0.31	238.54
1986	30.41	3.45	37.84	12.61	1282.60	78.76	0.31	168.52
1987	30.95	3.72	31.85	12.96	1643.80	71.46	0.31	144.64
1988	31.73	3.72	28.59	13.92	1685.70	68.68	0.31	128.15
1989	32.27	3.77	26.41	16.23	1770.10	72.02	0.31	137.96
1990	34.57	4.78	27.16	17.50	1842.80	68.10	0.31	144.79
1991	36.60	5.32	26.05	22.74	1950.30	67.51	0.31	134.71
1992	38.95	5.51	26.82	25.92	2029.90	65.55	0.31	126.65
1993	39.57	5.75	25.16	30.49	2087.10	1267.77	3.22	111.20

Korea Rep (won)	Malay- sia (M\$)	Myan- mar (kyat)	Nepal (rupee)	Pakis- tan (rupee)	Philip- pines (peso)	Sri Lanka (rupee)	Thai- land (baht)	YEAR
130.00	3.06	4.78	7.62	4.78	2.02	4.76	21.06	1961
130.00	3.06	4.77	7.62	4.77	3.83	4.75	20.88	1962
130.00	3.06	4.78	7.62	4.79	3.91	4.76	20.84	1963
255.00	3.07	4.80	7.62	4.80	3.91	4.77	20.84	1964
271.00	3.07	4.79	7.62	4.80	3.91	4.78	20.83	1965
270.00	3.07	4.80	7.62	4.80	3.90	4.78	20.80	1966
274.00	3.07	4.80	7.77	4.80	3.93	4.97	20.75	1967
281.00	3.06	4.81	10.14	4.80	3.93	5.93	20.88	1968
304.00	3.06	4.81	10.14	4.80	3.93	5.95	20.90	1969
316.60	3.08	4.80	10.14	4.80	5.91	5.96	20.93	1970
373.20	3.02	4.84	10.14	4.77	6.43	5.96	20.93	1971
392.90	2.82	5.46	10.14	8.68	6.67	5.97	20.80	1972
398.32	2.44	4.93	10.51	9.99	6.76	6.40	20.62	1973
484.43	2.41	4.86	10.57	9.90	6.79	6.65	20.38	1974
484.00	2.40	6.38	11.01	9.90	7.25	7.01	20.38	1975
484.00	2.54	6.77	12.51	9.90	7.44	8.41	20.40	1976
484.00	2.46	7.12	12.51	9.90	7.40	8.87	20.40	1977
484.00	2.32	6.89	12.12	9.90	7.37	15.61	20.34	1978
484.00	2.19	6.65	12.01	9.90	7.38	15.57	20.42	1979
607.43	2.18	6.60	12.01	9.90	7.51	16.53	20.48	1980
681.03	2.30	7.28	12.35	9.90	7.90	19.25	21.82	1981
731.08	2.34	7.79	13.25	11.85	8.54	20.81	23.00	1982
775.75	2.32	8.04	14.55	13.12	11.11	23.53	23.00	1983
805.98	2.34	8.39	16.46	14.05	16.70	25.44	23.64	1984
870.02	2.48	8.47	18.25	15.93	18.61	27.16	27.16	1985
881.45	2.58	7.33	21.23	16.65	20.39	28.02	26.30	1986
822.57	2.52	6.65	21.82	17.40	20.57	29.44	25.72	1987
731.47	2.62	6.39	23.29	18.00	21.10	31.81	25.29	1988
671.46	2.71	6.70	27.19	20.54	21.74	36.05	25.70	1989
707.76	2.70	6.34	29.37	21.71	24.31	40.06	25.58	1990
733.35	2.75	6.28	37.26	23.80	27.48	41.37	25.52	1991
780.65	2.55	6.10	42.74	25.08	25.51	43.69	25.40	1992
802.68	2.57	6.16	48.61	28.11	27.12	48.32	25.33	1993

Appendix Table 3. Continued

YEAR	Cameroon (franc)	Côte d'Ivoire (franc)	Guinea (syli)	Madagascar (franc)	Mali (franc)	Nigeria (naira)	Senegal (franc)	Sierra Leone (leone)
1961	246.85	246.85	...	246.85	246.85	0.71	246.85	0.71
1962	246.85	246.85	...	246.85	246.85	0.71	246.85	0.71
1963	246.85	246.85	24.68	246.85	246.85	0.71	246.85	0.71
1964	246.85	246.85	24.68	246.85	246.85	0.71	246.85	0.71
1965	246.85	246.85	24.68	246.85	246.85	0.71	246.85	0.71
1966	246.85	246.85	24.68	246.85	246.85	0.71	246.85	0.71
1967	246.85	246.85	24.68	246.85	246.85	0.71	246.85	0.72
1968	246.85	246.85	24.68	246.85	246.85	0.71	246.85	0.83
1969	259.71	259.71	24.68	259.71	259.71	0.71	259.71	0.83
1970	277.71	277.71	24.68	277.71	277.71	0.71	277.71	0.83
1971	277.13	277.13	24.61	277.13	277.13	0.71	277.13	0.83
1972	252.48	252.48	22.74	252.48	252.48	0.66	252.48	0.80
1973	222.89	222.89	20.72	222.89	222.89	0.66	222.89	0.82
1974	240.70	240.70	...	240.70	240.70	0.63	240.70	0.86
1975	214.31	214.31	...	214.31	214.31	0.62	214.31	0.92
1976	238.95	238.95	...	238.95	238.95	0.63	238.95	1.11
1977	245.68	245.68	21.11	245.68	245.68	0.64	245.68	1.15
1978	225.66	225.66	19.62	225.66	225.66	0.64	225.66	1.05
1979	212.72	212.72	19.11	212.72	212.72	0.60	212.72	1.06
1980	211.28	211.28	18.96	211.28	211.28	0.55	211.28	1.05
1981	271.73	271.73	20.92	271.73	271.73	0.61	271.73	1.16
1982	328.61	328.61	22.35	349.74	328.61	0.67	328.61	1.24
1983	381.06	381.06	23.09	430.45	381.06	0.72	381.06	1.68
1984	436.96	436.96	24.08	576.60	436.96	0.77	436.96	3.98
1985	449.26	449.26	24.29	662.50	449.26	0.89	449.26	5.09
1986	346.30	346.30	342.00	676.30	346.30	1.75	346.30	16.09
1987	300.54	300.54	427.90	1069.20	300.54	4.02	300.54	34.04
1988	297.85	297.85	470.81	1407.10	297.85	4.54	297.85	32.51
1989	319.01	319.01	...	1603.40	319.01	7.36	319.01	59.81
1990	272.26	272.26	...	1494.10	272.26	8.04	272.26	151.45
1991	282.11	282.11	...	1835.40	282.11	9.91	282.11	295.34
1992	264.69	264.69	...	1864.00	264.69	17.30	264.69	499.44
1993	283.16	283.16	...	1913.80	283.16	22.06	283.16	567.46

^a Data relate to average during the period.

^b ... = data not available.

Sources: IMF. International financial statistics. Washington, D.C. (various issues).

ADB. Key Indicators of Developing Member Countries of ADB. Manila (various issues)

FAO trade yearbook. 1988. Rome.

Appendix Table 4. Rice crop calendar, by country.

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
ASIA			
Bangladesh			
Aus	Apr	Jul-Sep	Aug
Transplanted aman	Jul-Aug	Nov-Jan	Dec
Broadcasted aman	Apr	Late Oct-Dec	Nov
Boro	Dec	Apr-May	May
Cambodia			
Main	Jun-Jul	Dec-Jan	
Second	Dec-Jan	Mar	
China, PR			
Early crop	Feb-May	Jun-Jul	Jul
Intermediate ^a	Mar-May	Aug-Oct	Sep
Late rice	Jun-Jul	Oct-Nov	
Northern	Mid-Apr to Mid-Jun		Sep
Taiwan, China			
Main	Jan-Mar	May-Jul	Jun
Second	May to Mid-Aug	Sep-Nov	Oct
India			
Kharif			
Early	Mar-May	Jun-Dec	Aug-Sep
Main	Jun-Oct	Nov-Apr	Nov-Jan
Rabi (summer)	Nov-Feb	Mar-Jun	Apr-May
Indonesia^b			
Main			
Java	Oct-Mar	Feb-Jun	Mar-May
S. Sulawesi	May-Jun	Aug-Oct	Aug-Sep
N. Sumatra	Jul-Nov	Dec-Mar	Jan-Mar
S. Sumatra	Oct-Jan	Jan-Jun	Apr-Jun
Second			
Java	Apr-Jun	Jul-Oct	Jul-Sep
S. Sulawesi	Nov-Feb	Apr-Jun	May
N. Sumatra	May-Jun	Aug-Sep	Aug-Sep
S. Sumatra	Jun-Jul	Sep-Oct	Sep-Oct

Appendix Table 4. Continued

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
ASIA (continued)			
Iran	May-Jun	Aug-Sep	
Iraq	May	Late Aug to Mid-Nov	
Japan	Apr-May	Sep-Nov	Oct
Korea DPR	May-Jun	Sep-Oct	Sep
Korea Rep	Jun-Jul	Oct-Nov	Oct
Lao PDR	Jun-Aug	Nov-Dec	
Lebanon	May	Sep-Oct	
Malaysia			
Main			
West	Sep-Oct	Nov-Mar	Dec-Feb
Sabah	Jun-Aug	Jan-Mar	Jan-Feb
Sarawak	Oct-Nov	Mar-Apr	
Second			
West	Apr-May	Jul-Oct	Sep
Myanmar			
Main	Jun	Nov-Jan	Dec
Second	Nov	Mar-May	Apr
Nepal			
Early	Late May-Aug	Aug-Sep	
Late	Jun-Jul	Nov	
Pakistan	Mid-Apr to Mid-Jul	Mid-Oct to Nov	Early Nov
Philippines			
Main	Jul-Sep	Nov-Jan	Dec
Second	Jan-Feb	Apr-Jun	May
Third	May-Jun	Sep-Nov	
Saudi Arabia	Jul	Nov	

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
ASIA (continued)			
Sri Lanka			
Maha (main)	Oct-Nov	Feb-Mar	Feb
Yala	Apr-May	Aug-Sep	
Syria	Jul-May	Mid-Sep to Oct	Oct
Thailand			
Main			
North	May-Jun	Nov-Jan	Nov-Jan
Northeast	Jun-Aug	Nov-Jan	
Central	Jun-Jul	Nov-Feb	
South	Sep-Nov	Mar-May	
Second	Jan-May	Jun-Aug	
Turkey	Apr-May	Sep-Oct	Oct
Vietnam			
10th month (main)			
North	May to Early Sep	Late Sep to Nov	
Central	May-Sep	Sep to Mid-Dec	
South	May-Early Oct	Late Nov to Feb	
Winter-spring			
North	Jan to Early Mar	May-Jun	
Central	Jan-Early Mar	Apr-May	Mar-May
South	Mid-Dec to Early Mar		
5th month spring	Oct-Nov	May-Jun	
Summer-fall			
North	Apr-May	Aug-Sep	
Central	Apr-May	Late Jul to Sep	
South	Apr-Jun	Jul-Oct	
SOUTH AMERICA			
Argentina	Mid-Sep to Mid-Dec	Mid-Mar to Mid-Jun	Apr
Bolivia	Oct-Nov	Jan-Mar	Feb-Mar
Continued			

Appendix Table 4. Continued

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
SOUTH AMERICA (continued)			
Brazil			
South	Aug-Dec	Feb-May	Mar-Apr
Northeast	Mar-May	Aug-Oct	Oct
North	Nov-Dec	Apr-Jun	May
Chile	Oct-Nov	Mar-Apr	Apr
Colombia			
Summer (main)	Mar-Apr	Jun-Aug	
Winter		Dec-Feb	
Ecuador			
Winter (main)	Dec-Feb	Apr-Jun	May
Summer	May-Aug	Aug-Dec	
French Guiana			
Upland		Mar-Oct	
Lowland		Whole year-round	
Guyana			
Autumn (main)	May-Jun	Sep-Oct	Oct
Spring	Dec-Jan	Feb-May	Mar-Apr
Paraguay	Sep-Dec	Jan-Mar	Feb-Mar
Peru	Jan-Feb	May-Jul	Jul
Surinam			
First	Apr-May	Sep-Oct	
Second	Oct-Nov	Mar-Apr	
Uruguay	Oct-Dec	Mar-Jul	Apr-May
Venezuela			
Spring		Jan-Feb	Feb
Winter	Apr-Jun	Sep-Nov	Oct

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
NORTH AMERICA			
Belize			
Main	Apr-Jun	Sep-Dec	Oct-Dec
Second	Oct-Nov	Mar-May	
Costa Rica			
North		Nov-Dec	
South		Aug-Sep	
Cuba	Mar-Jun	Aug-Dec	Oct-Dec
Dominican Rep			
Spring (main)	Apr-Aug	Jul-Dec	
Winter		Jan-Feb	
El Salvador	Jun-Jul	Oct-Dec	Nov
Guatemala	Apr-May	Aug-Dec	Nov
Haiti			
First	Oct-Nov	Mar-Apr	
Second	Apr-May	Sep-Oct	
Honduras	Apr-May	Sep-Oct	Oct
Jamaica	Dec-Jan	Dec-Jan	
Mexico	Mid-Mar to Mid-Jul	Mid-Sep to Mid-Jan	Nov
Nicaragua	Jun-Jul	Nov-Feb	Dec
Panama			
Main	Apr-May	Aug-Oct	Sep
Second	Aug-Sep	Dec-Jan	
St. Lucia		Nov-Dec	Nov
Trinidad & Tobago	Jun-Early Aug	Late Oct- Early Dec	Nov

Continued

Appendix Table 4. Continued

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
NORTH AMERICA (continued)			
USA			
Gulf	Apr-Jun	Aug-Oct	Late Aug-Sep
California	Apr-Jun	Mid-Sep to Nov	Oct
AFRICA			
Algeria	Apr-May	Mid-Sep to Mid-Oct	
Angola	Mid-Oct to Mid-Jul	Mid-Mar to Mid-May	
Benin	Mid-Apr to Mid-Jul	Mid-Aug to Mid-Dec	
Burkina Faso	Mid-May to Mid-Jul	Mid-Oct to Mid-Nov	
Burundi	Mid-Oct to Mid-Dec	Mid-May to Mid-Jul	Jun
Cameroon			
North	Jun-Jul	Nov-Dec	Dec
South	Aug	Dec-Jan	
Central African Rep	Jul	Nov	
Chad	Jun-Jul	Oct-Dec	
Congo	Nov	Apr-May	
Côte d'Ivoire	Mar-Jul	Mid Aug to Mid-Dec	Oct
Egypt			
North (main)	Late Apr to Jun	Mid-Sep to Oct	
South	Jul-Aug	Dec-Jan	
Ethiopia	Apr-Jun	Dec-Jan	
Gambia	Jun-Jul	Oct-Nov	Oct
Gabon	Mid-Nov to Mid-Jan	Mid-May to Mid-Jun	
Ghana	Mid-Mar to Mid-May	Mid-Jul to Mid-Oct	
Guinea			
Major	Apr-May	Sep-Oct	
Minor	May-Aug	Oct-Jan	
Kenya			
Main		Nov-Dec	
Second		Jun-Jul	

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
AFRICA (continued)			
Liberia			
Upland	Mid-Apr to Jul	Sep to Mid-Dec	Oct
Swamp	Jul-Aug	Dec-Jan	
Madagascar	Oct-Nov	Apr-Jun	
Mali	Jun-Jul	Late Nov to Jan	
Malawi	Mid-Nov to Dec	Apr-Jun	
Mauritania	Jun	Oct-Nov	Nov
Mauritius		May-Jun	
Morocco		Jul-Aug	Aug
Mozambique		May-Jun	Jun
Niger	Mid-Jul to Mid-Aug	Mid-Nov to Mid-Dec	
Nigeria	Mid-Apr to May	Aug-Sep	Oct
Rwanda	Mid-Oct to Mid-Dec	Mid-May to Mid-Jul	Jun
Senegal			
Casamance	Jun-Jul	Nov-Jan	Nov
Fleuve	Jun-Jul	Oct-Dec	
Sierra Leone			
Upland	May-Jun	Aug-Oct	
Inland swamp	May-Jul	Sep-Dec	
Mangrove swamp	Jul-Aug	Dec-Jan	
Boliland	May-Jul	Dec-Jan	
Riverain	Apr-May	Dec-Jan	
Somalia	May	Sep	Mid-Sep
Sudan	Jun	Oct	

Continued

Appendix Table 4. Continued

CROP AND COUNTRY	Planting	Harvest	Bulk of harvest
AFRICA (continued)			
Togo	May	Mid-Oct to Mid-Nov	
Uganda			
First crop		Jan-Feb	Oct-Nov
Second crop		Jun-Jul	
Third crop		Sep-Nov	
Zaire			
North	Feb	Jun	
South	Oct	Jan	
WESTERN EUROPE			
France	Mar-Apr	Sep-Oct	Oct
Greece	May	Sep-Oct	Sep
Italy	Apr-May	End Aug to Early Nov	Sep
Portugal	Mar-May	Aug-Oct	Sep
Spain	May	Sep-Oct	Sep
EASTERN EUROPE			
Albania	Apr-May	Oct	Oct
Bulgaria	Mar-Apr	Jul-Aug	Aug
Hungary	Apr-May	Sep-Oct	Oct
Romania	Apr-May	Sep-Oct	Oct
Former USSR	Apr-May	Aug-Sep	Sep
OCEANIA			
Australia			
New South Wales	Oct	Mar-May	Apr
Western Australia	Nov	Apr-May	
Fiji	Feb-Jul	Apr-May	
Papua New Guinea	May-Aug	Jun-Jul	
Solomon Islands	Whole year-round		
Tonga	Apr-May		

^a Includes single crop late rice.

^b If irrigation is available, especially in Java and Bali, rice is harvested whole year-round and in some sites, a third rice crop can be harvested at least once every 2 years. Java accounts for 62% of the total rice production.

Source: USDA, 1986. Foreign agriculture circular. Grains. Reference tables on rice supply-distribution for individual countries. Washington, D.C.

Appendix Table 5. Milling rates (rough rice to milled rice), by country.^a

COUNTRY	Rate	COUNTRY	Rate	COUNTRY	Rate
ASIA		SOUTH AMERICA (continued)		AFRICA (continued)	
Afghanistan	0.65	Paraguay	0.67	Kenya	0.66
Bangladesh	0.67	Peru	0.69	Liberia	0.60
Cambodia	0.63	Surinam	0.63	Madagascar	0.64
China, PR	0.70	Uruguay	0.70	Malawi	0.66
Taiwan, China ^b	0.73	Venezuela	0.65	Mali	0.66
India	0.67	N&C AMERICA		Mauritania	0.68
Indonesia ^c	0.68	Costa Rica	0.65	Morocco	0.65
Iran	0.66	Dominican Rep	0.65	Mozambique	0.67
Iraq	0.67	El Salvador	0.65	Nigeria	0.66
Japan ^d	0.73	Guatemala	0.66	Senegal	0.65
Korea Rep	0.72	Haiti	0.60	Sierra Leone	0.60
Korea DPR	0.69	Honduras	0.63	Somalia	0.65
Lao PDR	0.60	Jamaica	0.62	Swaziland	0.64
Malaysia	0.64	Mexico	0.67	Tanzania	0.67
Myanmar	0.62	Nicaragua	0.65	Togo	0.66
Nepal	0.67	Panama	0.67	Upper Volta	0.65
Pakistan	0.67	Trinidad & Tobago	0.66	Zaire	0.60
Philippines	0.65	USA	0.70	EUROPE	
Sri Lanka	0.68	AFRICA		Bulgaria	0.66
Saudi Arabia	0.66	Algeria	0.70	France	0.65
Thailand	0.66	Angola	0.65	Greece	0.63
Turkey	0.65	Benin	0.64	Hungary	0.63
Vietnam	0.65	Burundi	0.60	Italy	0.67
SOUTH AMERICA		Cameroon	0.60	Portugal	0.65
Argentina	0.65	Chad	0.69	Romania	0.65
Bolivia	0.70	Côte d'ivoire	0.64	Spain	0.70
Brazil	0.68	Egypt	0.67	Yugoslavia	0.60
Chile	0.65	Gambia	0.63	USSR	0.65
Colombia	0.65	Ghana	0.67	OCEANIA	
Ecuador	0.60	Guinea	0.65	Australia	0.72
Guyana	0.60	Guinea-Bissau	0.65		

^a To convert rough rice to milled rice, multiply rough rice by the milling rate.

To convert milled rice to rough rice, divide milled rice by the milling rate.

^b Brown rice multiplied by 1.355686 equals rough rice.^c Stalk rough rice multiplied by 0.764705 equals rough rice.^d Brown rice multiplied by 1.25 equals rough rice.

Source: USDA. 1989. Grain and Feed Division. Production, supply and demand Report. Washington, D.C.

Appendix Table 6. Important conversion factors, by country.

COUNTRY	CONVERSION FACTORS
ASIA	
Bangladesh	1 bushel = 0.73 maund = 29.17 seer = 60 lb 1 maund = 82.29 lb = 37.32 kg 1 seer = 2.05 lb = 0.93 kg 1 kg = 2.20462 lb = 1.07 seer 1 bushel per acre = 67.253 kg per ha 1 ha = 2.47109 acres 1 acre = 0.40468 ha 1 lakh = 100,000 1 crore = 10,000,000
Cambodia	1 picul = 68 kg 1 mt = 14.7059 picul
China	1 mu = 0.067 ha 15 mu = 1.0 ha 1 sheng milled rice = 1 liter milled rice = 0.5 kg 1 dou milled rice = 10 liters milled rice = 5 kg 1 dan (picul) milled rice = 100 liters milled rice = 50 kg 20 dan (picul) = 1 mt 1 dun = 1 mt = 2204.6 lb 1 dan (picul) = 100 jin 1 jin (catty) = 0.5 kg = 1.1023 lb 1 jin/mu = 7.5 kg/ha
Taiwan, China	1 kg rough rice = 0.76366 kg brown rice 1 kg ponlai brown rice = 0.93 kg milled rice 1 kg chailai brown rice = 0.94 kg milled rice 1 ha = 1.03 chia 1 chia = 0.9699 ha 1 old catty = 0.5968 kg 1 shih catty = 0.5 kg

COUNTRY

CONVERSION FACTORS

India

1 quintal = 100 kg
 1 maund = 37.3 kg = 82.29 lb
 1 Madras measure rice = 54 oz = 3.375 lb
 Bigha- land measure in rural areas but its definition varies
 from state to state. In Gujarat, 4/7 bigha = 1 acre; in Rajasthan,
 2 1/2 bighas = 1 acre; in West Bengal, 3 bighas = 1 acre.

Indonesia

1 litre rice = 0.8 kg.
 1 gantang rice = 8.58 liters = 0.00686 mt
 1 mt rice = 145.69 gantang
 Dry stalk rough rice (padi) to milled rice (beras) = 52%
 Gabah kering (dry rough rice) to milled rice (beras) = 68%
 Dry stalk rough rice (padi) to rough rice = 76.47%

Japan

Brown rice x 1.25 = rough rice
 Milled rice x 1.37 = rough rice
 Brown rice x 0.91 = milled rice
 Rough rice x 0.728 = milled rice
 1 koku brown rice = 150 kg
 1 koku rough rice = 187.5 kg
 1 koku milled rice = 136.5 kg
 1 sho milled rice = 1.425 kg
 1 kan = 3.75 kg
 1 kin = 0.6 kg
 1 picul = 100 kin = 60 kg
 1 cho = 10 tan = 2.45072 acres = 0.99174 ha
 1 ha = 10.0833 tan = 1.00833 cho
 1 tan = 0.1 cho = 0.09917 ha

Korea Rep

1 danbo = 0.1 jeongbo = 0.099174 ha
 1 ha = 1.0083 jeongbo
 1 seok milled rice = 144 kg
 1 seok brown rice = 155 kg
 1 seok rough rice = 100 kg
 100 liters milled rice = 79.8264 kg

Continued

COUNTRY	CONVERSION FACTORS
Malaysia	1 picul brown rice = 133.33 lbs = 60.48 kg 1 gantang rough rice = 5.60 lbs = 2.54 kg 1 kati = 0.60476 kg
Myanmar	100 measures rough rice = 1 basket 1 basket rough rice = 46 lb = 20.86 kg 1 basket milled rice = 75 lb = 34.02 kg 1 bag milled rice = 225 lb = 102.06 kg 1 pyi milled rice = 4.69 lb = 2.13 kg 1 maund = 0.037 mt 1 mt = 26.792 maunds
Nepal	1 khet = 1.3 ha 1 bigha = 0.67 ha (Terai) 1 matomuri = 0.13 ha = 0.25 ropani 1 ropani = 0.05 ha (Hills) = 4 muris 1 muri = 0.013 ha 1 seer = 0.80 kg (Hills) 1 seer = 0.93 kg (Terai) 1 mana = 0.3 kg rough rice 1 mana = 0.454 kg rice 1 maund = 37.32 kg rough rice (Terai)
Pakistan	1 kg = 2.2046 lb = 1.0716 seer 1 quintal = 100 kg = 1.96841 cwt = 2.679 maunds 1 metric ton = 1000 kg = 0.98421 long ton = 26.79 maunds 100 kg per ha = 1.4869 bushels per acre = 1.09 maunds per acre 1 bushel per acre = 67.253 kg per ha 1 bushel = 0.73 maunds = 29.17 seers = 60 lb Before 1980, 1 maund = 37.324 kg; after 1980, 1 maund = 40 kg

COUNTRY	CONVERSION FACTORS
Philippines	1 cavan rough rice = 50 kg 1 cavan milled rice = 50 kg 1 ganta milled rice = 2.24 kg Before 1973: 1 ganta = 3 liters 1 cavan rough rice = 44 kg 1 cavan milled rice = 56 kg
Sri Lanka	1 bushel rough rice = 46 lb = 20.86 kg 1 bushel rough rice = 30.69 lb milled rice = 14 kg milled rice 1 bushel milled rice = 64 lb = 32 measures of rice 1 measure milled rice = 2 lb = 0.907 kg
Thailand	1 picul = 60 kg 1 catty = 600 grams = 6 kg 1 kwein = 2000 liters 1 ban = 1000 liters 1 sat = 20 liters 1 thanan = 1 liter 1 kwein rough rice = 1 mt rough rice 1 rai = 0.16 ha = 0.395 acre

Continued

Appendix Table 6. Continued

COUNTRY	CONVERSION FACTORS
OTHER COUNTRIES	
Australia	1 bushel rough rice = 42 lb = 19.05 kg
Brazil	1 bushel rough rice = 45 lb = 20.41 kg 1 sack (bag) rough rice = 110.23 lb = 50 kg 1 sack (bag) milled rice = 88.18 lb = 40 kg
Egypt	1 sack (bag) milled rice = 220.11 lb = 99.84 kg
Ghana	1 sack (bag) milled rice = 240 lb = 108.86 kg
Guyana	1 sack (bag) rough rice = 140 lb = 63.50 kg 1 sack (bag) milled rice = 180 lb = 81.65 kg
Malawi	1 sack (bag) rough rice = 150 lb = 68.04 kg 1 sack (bag) milled rice = 200 lb = 90.72 kg
Mexico	1 carga rough rice = 304.24 lb = 138 kg 1 carga milled rice = 352.74 lb = 160 kg
Panama	1 lata milled rice = 24.99 lb = 11.33 kg 1 lata rough rice = 35.99 lb = 16.32 kg
Sierra Leone	1 bushel rough rice = 60 lb = 27.21 kg 1 bushel milled rice = 84 lb = 38.10 kg
Swaziland	1 pocket milled rice = 2 lb = 0.91 kg
USA	1 bushel rough rice = 45 lb = 20.41 kg 1 sack (bag) rough rice = 100 lb = 45.36 kg 1 sack (bag) milled rice = 100 lb = 45.36 kg 1 barrel rough rice = 162 lb = 73.48 kg
Uruguay	1 bolsa brown rice = 110.23 lb = 50 kg

Sources: For Asia: Rose, B. 1985. Appendix to the rice economy of Asia. Resources for the Future, Inc., Washington, D.C.
For other countries: FAO Rice Report. 1974-75. 1975. Rome.

